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# Contextual family factors in the relationship between paternal depression and child internalising

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# Background

- Internalising symptoms:
  - Depression symptoms
  - Anxiety symptoms
- Prevalence of internalising symptoms among children and adolescents is increasing (National Academics of Science, Engineering and Medicine, 2019).
- Increase in suicide rates.
- Internalising symptoms  negative effects on a child and adolescents quality of life



- **Long-term effects:** e.g., Depression during adolescents puts the person at increased risk of depression in adult life (Dunn, & Goodyer, 2006; McLeod et al., 2016)
- **The adolescent period:** increased prevalence of internalising symptoms (Maughan et al., 2013; Merikangas et al., 2010)
- Therefore, adolescents appear to be highly vulnerable during this time to developing internalising symptoms



# Depression in Adolescence

- **Symptoms:** social withdrawal, poor concentration, low mood, anhedonia, sleep disturbances, fatigue (APA, 2013).
- Anger and irritability appear to be key for adolescents.
- Irritability presents as anger and aggression towards others or themselves (Fava et al; 2010; Midgley et al., 2015).
- Qualitative research: short-tempered, short fuse, getting into arguments (Midgley, 2015)



# Risk factors for developing internalising symptoms in children and adolescents

- Risk factors fall mainly into two categories (**Genetic** and **Environmental**)
- **Genetic:**
  - Family history of depression (Maughan et al., 2013)
- **Environmental:**
  - Having depressed parents (Tully et al., 2008)  $\rightarrow$  less positive and more negative parenting (Goodman et al., 2020).
  - Higher levels of parental aggressive behaviour (Schwartz et al., 2012).
  - Marital conflict - direct and indirect effects (Cummings et al., 2005; Hanington et al., 2012)



# Adolescent Depression/Internalising

- **Interpersonal theories:** interpersonal disputes between family members important in the onset of depression (Bernaras et al., 2019)
- **Rohner's rejection theory:** links psychological adjustment in adolescents to their own perception of being accepted/rejected by caregiver.



# The Father

- Increasing desire to be involved in childcare (Reimer, 2017)
- However mother's remain the predominant Primary Caregiver (99% in GUI dataset) with fathers predominantly Secondary Caregivers (99% in GUI).
- At greater risk of suffering mental health issues upon becoming a father (Fisher, 2017).



# Longitudinal research

- Research from the ALSPAC (Gutierrez-Galve et al., 2015)
  - Paternal depression and child outcomes associations
  - Significant results at 42 and 81 months respectively
  - Familial factors (maternal depression, couple conflict) mediate two-thirds of the association between paternal depression and child outcomes at 3.5 years and 7 years
  - This research does not extend into the adolescent years
- GUI and Millennium cohort study (UK) (Lewis et al., 2017)
  - Found an independent association between paternal depression and adolescent depressive symptoms



# The present study

- A model was proposed which acknowledged the influence of the father across childhood and how this impacts on child development:
  - Genetics: their own depression
  - Conflictual parenting
  - Indirectly through maternal depression
  - Indirectly through couple conflict
  - Conflict in the father-child relationship (irritability of adolescent)
  - Fathers scoring highly on positive parenting will have a protective role



- Hypotheses:
  - Paternal depression will be associated with higher levels of internalising symptoms among children/adolescents
  - Especially strong during adolescence when the adolescent is more likely to be in conflict with the father
  - Mediated by a poor father-child relationship and increased levels of conflict between the two.



- **Present Study:**
- Growing Up in Ireland Child Cohort Wave 1 (N= 8,568), Wave 2 (N = 7,525) and Wave 3 (N= 6,216)
  - - Inclusion criteria:
    - Secondary Caregiver (SCG) = Male
    - SCG = same individual in each of the three waves
    - Two-parent families
    - Both biological and non-biological parents included
  - analysis of paternal depression was only examined solely in SCG fathers
  - Due to inclusion criteria, participant size was **(N= 4,587)**



# Difficulties

- Initially hope to analyse paternal depression in male PCG's and male SCG's
- Proved difficult to separate the data analysis based on the above and to differentiate from the results whether the PCG or SCG was male.
- As such, it was decided that Male SCG's would be the focus as this comprised of 99% of males



# Measures

- **Parental Depression:** Centre for Epidemiological Studies Depression Scale (CES-D) (Melchior et al., 1993)
- **Parent-Child Relationship:** Pianta Child-Parent Relationship Scale (CPRS) (Pianta, 1992)
- **Child Outcomes:** Strengths and Difficulties Questionnaire (SDQ) (Goodman et al., 1998)
- **Parenting Style:** The Parenting Style Inventory II (Darling, & Toyokawa, 1997)
- **Couple Conflict:** Dyadic Adjustment Scale (DAS) (Spanier, 1976)
- **Socioeconomic Status:** Total Income (Quintiles), Father education, Father employment status



# The Model

- **Predictor Variables:**

- SCG Depression, SCG Closeness, SCG Conflict, SCG Dependence
- PCG Depression, PCG Dependence, PCG Closeness, PCG Conflict
- Dyadic Adjustment PCG, Dyadic Adjustment SCG, Mother parenting style, Father parenting style
- Equivalised Household Annual Income-Quintiles, SCG Education, SCG Employment Status, (and child internalising scores from the previous wave)

- **Criterion Variable:**

- Child/adolescent Internalising



# Findings

- Results: Broken down into **Child Outcomes** based on whether the father was **biological** or **non-biological** (stepfather/other)
- Standard Multiple regression analysis was performed to determine how well levels of internalising symptoms of study children of biological and non-biological fathers respectively could be explained by the variables of interest across waves.
- E.g., Predictor variables in Wave 1 predicting criterion variable (child outcomes) in Wave 2 in children of biological fathers



- **Child Outcomes (Bio. Fathers) – Predictor variables Wave 1, outcome Wave 2**
- Model explained 28.5% of variance in child internalising scores ( $F(16, 3716) = 92.40, p < .001$ ).

*Multiple regression model predicting internalising symptoms in children of biological fathers in Wave 2, using Wave 1 variables.*

	R <sup>2</sup>	Adj R <sup>2</sup>	$\beta$	B	SE	CI 95% (B)
<b>Model</b>	.29***	.28***				
SCG Depression			.02	.02	.02	-.01 / .06
SCG Conflict			.04*	.01	.01	.00 / .03
SCG Closeness			.02	.01	.01	-.01 / .03
SCG Dependence			.02	.02	.02	-.01 / .05
PCG Depression			.04**	.04	.01	.01 / .07
PCG Conflict			.11***	.04	.01	.03 / .05
PCG Closeness			.01	.01	.01	-.02 / .03
PCG Dependence			.02	.02	.01	-.01 / .04
Dyadic Adjustment PCG			.02	.01	.01	-.01 / .03
Dyadic Adjustment SCG			-.02	-.01	.01	-.03 / .01
Mother Parenting Style			-.02	-.06	.05	-.16 / .04
Father Parenting Style			.05**	.13	.05	.04 / .22
Annual Household Income			-.02	-.05	.03	-.11 / .02
SCG Education			-.02	-.04	.03	-.10 / .02
SCG Employment status			.03*	.06	.03	.00 / .11
Child Internalising W1			.44***	.44	.02	.41 / .47

Note. R<sup>2</sup> = R-squared; Adj R<sup>2</sup> = Adjusted R-squared;  $\beta$  = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; CI 95% (B) = 95% confidence interval for B; N = 4,429; Statistical significance: \*p < .05; \*\*p < .01; \*\*\*p < .001

# Results

- **Child Outcomes (Non-Bio. SCG's)- Predictor variables Wave 1, Outcome Wave 2**
- Sample size (N= 158)
- The model explained 30% of variance in internalising symptoms scores ( $F(11, 115) = 4.52, p < .001$ ).
- Child internalising symptoms in Wave 1 ( $\beta = .30$ ) was most strongly associated with levels of child internalising symptoms in Wave 2.
- No other variables significantly associated with child outcomes in Wave 1 for this group



# Results

- **Child Outcomes (Bio. Fathers) – Predictor variables Wave 1, outcome Wave 3**
- The model as a whole explained 18.5% of variance in internalising symptoms scores ( $F(16, 3716) = 52.70, p < .001$ )
- Strongest predictor of child internalising in Wave 3: Child internalising Wave 1 ( $\beta = .33$ )

*Multiple regression model predicting internalising symptoms in children of biological fathers in Wave 3, using Wave 1 variables.*

	R <sup>2</sup>	Adj R <sup>2</sup>	$\beta$	B	SE	CI 95% (B)
<b>Model</b>	.19***	.18***				
SCG Depression			.02	.03	.02	-.01 / .07
SCG Conflict			.02	.01	.01	-.01 / .02
SCG Closeness			-.02	-.01	.01	-.04 / .01
SCG Dependence			.03	.03	.02	-.00 / .06
PCG Depression			.05**	.05	.02	.02 / .08
PCG Conflict			.11***	.04	.01	.03 / .05
PCG Closeness			.05**	.04	.01	.01 / .06
PCG Dependence			.03	.03	.01	.00 / .06
Dyadic Adjustment PCG			.00	.00	.01	-.02 / .02
Dyadic Adjustment SCG			-.01	-.01	.01	-.02 / .01
Mother Parenting Style			-.02	-.08	.06	-.20 / .04
Father Parenting Style			.03	.10	.05	-.01 / .20
Annual Household Income			-.02	-.05	.04	-.12 / .02
SCG Education			-.02	-.05	.03	-.11 / .02
SCG Employment status			-.01	-.02	.03	-.08 / .05
Child Internalising W1			.33***	.35	.02	.32 / .39

Note. R<sup>2</sup> = R-squared; Adj R<sup>2</sup> = Adjusted R-squared;  $\beta$  = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; CI 95% (B) = 95% confidence interval for B; N = 4,429; Statistical significance: \*p < .05; \*\*p < .01; \*\*\*p < .001



# Results

- **Child Outcomes (Non-Bio. SCG's) – Predictor variables W1, Outcome W3**
- The model explained 27% of variance in internalising symptoms scores ( $F(11, 115) = 3.85, p < .001$ )
- Child internalising symptoms in Wave 1 ( $\beta = .4$ ) was the only variable associated with levels of child internalising symptoms in Wave 3.



# Results

- **Child Outcomes (Bio. Fathers) – Predictor variables Wave 2, outcome Wave 3**
- The model explained 27.9% of variance in internalising symptoms scores (F (12, 3661) = 118.06, p < .001)

*Multiple regression model predicting internalising symptoms in children of biological fathers in Wave 3, using Wave 2 variables.*

	R <sup>2</sup>	Adj R <sup>2</sup>	β	B	SE	CI 95% (B)
<b>Model</b>	.28***	.28***				
SCG Depression			.01	.01	.02	-.02 / .04
SCG Conflict			.04*	.02	.01	.00 / .04
SCG Closeness			-.02	-.02	.01	-.04 / .01
PCG Depression			.05**	.05	.02	.02 / .08
PCG Conflict			.07***	.03	.01	.02 / .05
PCG Closeness			.01	.01	.01	-.02 / .04
Dyadic Adjustment PCG			.01	.01	.02	-.02 / .04
Dyadic Adjustment SCG			.01	.01	.02	-.03 / .04
Annual Household Income			-.03	-.05	.03	-.13 / .01
SCG Employment Status			-.03	-.04	.02	-.09 / .00
SCG Education			-.02	-.04	.03	-.10 / .03
Child Internalising W1			.47***	.50	.02	.47 / .53

Note. R<sup>2</sup> = R-squared; Adj R<sup>2</sup> = Adjusted R-squared; β = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; CI 95% (B) = 95% confidence interval for B; N = 4,429; Statistical significance: \*p < .05; \*\*p < .01; \*\*\*p < .001



# Results

- **Child Outcomes (Non-Bio. SCG's)- Predictor Variable Wave 2, Outcome Wave 3**
- The model explained 23% of variance in internalising symptoms scores ( $F(9, 127) = 4.22, p < .001$ )
- Child internalising symptoms in Wave 2 ( $\beta = .41$ ) was most strongly associated with levels of child internalising symptoms in Wave 3.
- Only other significant in the model: PCG depression ( $\beta = .20$ )



# Implications

- Findings indicate that the influence of the father, through factors such as conflict with their child and through their parenting style, can have longitudinal effects on a child's internalising symptoms.



# Implications (Children with bio. Fathers)

- **Strongest predictor of future child internalising:** a history of internalising symptoms.
- Significance of Father-child conflict and father parenting style between 9 and 13 years, and Father-child conflict between 13 and 17/18 years supports research highlighting the prominence of **anger, aggression** and **conflict** as a characteristic of adolescent internalising.
- Paternal depression not directly significant  
 Possibly linked to more negative parenting (conflict, aggression)?



# Implications (Children with bio. Fathers)

- This Father-child conflict is notwithstanding the stronger effect of maternal depression and mother-child conflict
- Prominence of parent-child conflict:
  - Supports **Rohner's rejection theory (2003)**
- Mother as PCG:
  - Mother-child conflict at 9 years: predicts child outcomes at 13 years and 17/18 years respectively.
  - Maternal depression, closeness, dependence also predict child outcomes at 17/18 years.
  - No direct effects of paternal variables across the same period; mother remains most influential on child outcomes.



# Implications (Non-bio. fathers)

- A history of child internalising was the sole significant variable associated with child outcomes
- Maternal depression important at 13 yrs to predict adolescent internalising at 17/18 years.
- Points to familial transmission:
  - other environmental factors could not be identified for this group, possibly due to the above variables having such a strong influence.



# Conclusions

- **Strongest predictor**  **previous history of internalising**
- Greater parent-child conflict  higher levels of internalising in adolescence.
- Living with a depressed parent, particularly a depressed mother as PCG is a significant risk factor for child internalising.
- Paternal influence is significant at different timepoints.
- Comparison of Maternal Primary Caregiver influence vs. Paternal Secondary Caregiver influence.



# Conclusions

- Model – accounts for between 18.5% and 28.5% of variance in child internalising
- Internalising therefore not solely a reflection of lived experience
- Experience is significant
- Internalising better explained as a culmination of the interaction between experience and genetics.



**Thank you for your time!**



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