

Engagement in *Preparing for Life*: The importance of psychological & cognitive resources

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Programme Engagement

- Amount of treatment or the amount of activities that an individual receives or engages in within the programme (Korfmacher et al., 2008)
- Engagement is key factor in programme effectiveness
 - Spectrum of engagement patterns (Durlak & Dupre, 2008)
 - Higher engagement associated with gains in child development (Kahn & Moore, 2010; Lyons-Ruth & Melnick, 2004; Nievar et al., 2010; Sweet & Appelbaum, 2004)
- Interpretation of results (intention to treat)
- Early stage engagement
 - Strong participant home visitor relationship (Ammerman et al., 2006)
 - Increase number of services received & retention (Lutzker et al., 2001)

Engagement & Parental Characteristics

- Huge variance in factors associated with engagement

(Ammerman et al., 2006; Daro et al., 2003; Duggan et al., 1999; Duggan et al., 2000; Olds & Korfmacher, 1998; Raikes et al., 2006; Roggman et al., 2002; Sharp et al., 2003; Wagner et al., 2001)

- Ethnicity
- Parental age
- Employment status
- Marital status
- Socio-emotional functioning
- Personality
- Low social support
- Stress
- Family risk level

Psychological Resources

- Composite measure developed by Nurse Family Partnership to index mother's psychological resources
(Kitzman et al., 1997)
 - Mental Health
 - Mastery (self concept)
 - Cognitive resources

Psychological Resources

- Findings using the composite measure

(Kitzman et al., 1997; DuMont et al., 2008; LeCroy & Krysik, 2011; Olds & Korfmacher, 1998)

- Participants with fewer psychological resources more likely to benefit from home visiting programmes
- Found regardless of measures of mastery, mental health, and cognitive resources

- Psychological resources & engagement (Olds & Korfmacher, 1998)

- Curvilinear relationship with number of visits
- Mothers with very low & very high psychological resources receiving more visits

Cognitive Resources

- The attributes that an individual uses to execute a task *(Boy, 1998)*
 - Perceive, register, store & use information
 - Concentration, task focus, manage appointments
- Differential outcomes for mothers with low cognitive resources *(Olds et al., 2004; Olds, 2002; Landsman & Ramey, 1989; Brooks-Gunn et al., 1992; Martin et al., 1990)*
 - Mothers with low cognitive resources obtain greater benefit from HV programmes: Language, executive functioning, behavioural adaption, communication
- Not sure why these patterns exist
 - May be more receptive to programme information
 - Less likely to seek out support in absence of intervention

Cognitive Resources

- Verbal ability:
 - Measure of verbal functioning
 - Memory, learning ability, language development, abstract verbal reasoning
- Perceptual Reasoning:
 - Measure of non verbal ability
 - Visual-motor coordination, perceptual organisation

The Present Study

- Use data collected up to six months from *Preparing for Life (PFL)* intervention
- Decompose psychological resources
- Investigate relationship between engagement and the constituent components of psychological resources
 - This has not been done before
 - Complexity of relationship may be overlooked
 - Give more in-depth understanding of factors influencing engagement

Methods

- *PFL*: Manualised home visiting intervention in an Irish setting evaluated using RCT
- Data:
 - Focus on data collected from high treatment group
 - Baseline, 3 months, engagement data from programme entry to 6 months
- Analysis:
 - Regression analysis
 - DV engagement measures

Methods

- **Engagement measures** (*from mentor database*)
 - Proportion of visits & Average duration of home visits
- **Individual characteristics** (*from baseline assessment*)
 - **Mental Health:** WHO-5, measure of positive mental health
 - **Mastery:** Pearlin Mastery subscale, sense of control
- **Cognitive Resources** (*from 3 month assessment*)
 - WASI, measure of maternal cognition

Methods

- Measures (*Constructed*)
 - **Psychological Resources:** measure of personal competence
Summed and standardised z scores for mental health, mastery & cognitive resources (Kitzman et al., 1997)

Participant Characteristics at Baseline

Variables	N	Mean	SD
Mother's age	89	25.48	5.96
First-time Mother	89	0.53	0.5
Partnered	89	0.8	0.4
‡Cognitive Resources	87	82.45	12.65
<i>Verbal</i>	87	79.16	11.32
<i>Performance</i>	87	89.29	14.64
Poor well-being	89	0.39	0.49
Pearlin Mastery	89	2.8	0.6
Psychological Resources	86	100	10

‡measured at 3 months postpartum

Participant Engagement: Pregnancy to six months

	Prenatal	Postnatal	Total
Guideline no. of home visits	Weekly	26	
Delivered no. of home visits	6.29 (4.2) 0-19	7.7 (4.0) 0-20	13.4 (6.6) 2-34
% of guideline home visits	35.4 (23.5) 0-175	29.5 (15.2) 0-77	31.2 (14.2) 4-70
Mean duration of home visits	58.3 (21.4) 5-179	59.1 (12.3) 31.7-90.7	59.0 (13.0) 33.6-115

The table presents mean, standard deviation and the minimum-maximum values

*Ever engaged = participants received at least one home visit

Results

Psychological Resources

	Total	Prenatal	Postnatal
Average Home Visit Time	0.401*** (0.138)	0.515* (0.273)	0.357** (0.146)
Proportion of Home Visits	0.002 (0.002)	0.000 (0.003)	0.003 (0.002)

With Controls added

Average Home Visit Time	0.337** (0.148)	0.532 (0.321)	0.335* (0.335)
Proportion of Home Visits	0.003 (0.002)	0.003 (0.003)	0.003 (0.002)

Standard errors in parentheses, controls included (maternal age, employment status, partnered, first-time parent, domestic risk)

*** p<0.01, ** p<0.05, * p<0.1

Results

Components of Psychological Resources

Average Home Visit Time	Total	Prenatal	Postnatal
Mastery	0.221 (0.143)	0.319 (0.285)	0.317** (0.156)
Mental Health	0.106 (0.145)	-0.035 (0.302)	0.042 (0.159)
Cognitive Resources	0.233** (0.111)	0.560** (0.225)	0.195 (0.130)
Proportion of Home Visits	Total	Prenatal	Postnatal
Mastery	0.002 (0.002)	0.001 (0.003)	0.002 (0.002)
Mental Health	-0.00 (0.002)	0.001 (0.003)	-0.001 (0.002)
Cognitive Resources	0.002 (0.001)	0.003 (0.002)	0.002* (0.001)

Standard errors in parentheses, controls included (maternal age, employment status, partnered, first-time parent, domestic risk)

*** p<0.01, ** p<0.05, * p<0.1

Results

Components of Cognitive Resources

Average Time Home Visit	Total	Prenatal	Postnatal
Verbal Ability	0.230 (0.129)	0.404 (0.259)	0.240* (0.144)
Perceptual Reasoning	0.184* (0.095)	0.521*** (0.187)	0.108 (0.110)
Proportion of Home Visits	Total	Prenatal	Postnatal
Verbal Ability	0.003** (0.002)	0.004 (0.003)	0.004*** (0.002)
Perceptual Reasoning	0.001 (0.001)	0.001 (0.002)	0.001 (0.001)

Standard errors in parentheses, controls included (maternal age, employment status, partnered, first-time parent, domestic risk)

*** p<0.01, ** p<0.05, * p<0.1

Summary

- Psychological resources (PR) associated with average duration of home visits
 - Mothers with more PR have longer home visits
- Once PR decomposed into constitute parts
 - Results driven by *cognitive resources* (CR)
 - Mental health is not associated with duration of visits
 - Mastery has an influence on duration of visits in the postnatal period
- Once CR decomposed into constitute parts
 - Results driven by *perceptual reasoning*
 - Verbal ability not associated with duration of visits
- Few measures associated with proportion of home visits
 - Apart from verbal ability – higher ability more home visits

Conclusion

- Using a composite measure of psychological resources masks the true factors driving engagement
- The decomposition of psychological resources shows the influence of the composite variables at different time points
- Perceptual reasoning gives an indication of a person's ability to learn through non verbal means (e.g. clues and observation). These may be important skills to engage in a home visit
- Cognitive resources a key factor in engagement in home visits and may influence programme outcomes.