A psychometric measure of social capital among Irish adolescents

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What is social capital?

- **A resource available to individuals or communities that accrues as a result of social engagement and participation in networks, associations, community and civic life**

- **Intangible/elusive; difficult to define and measure**

- **Youth specific social capital**

Coleman (1988) - Role of Social Capital in the creation of Human Capital

Indicators of social capital:

Within the family (Strength of relations between parents/child)

Outside the family (social relations between parents and other parents/ community)

- presence of both parents in the household
- number of siblings
- whether mother worked before child was in school
- mother's expectation of child's educational attainment

- number of school changes due to family house moves
- frequency of discussions with parents about personal matters
- attend religious or private school
- frequency of attendance at religious service

Alternative conceptualisation and models

- **Dika and Singh (2002) - Disproportionate reliance on Coleman's theory and indicators**
- **Qualitative research Emphasis on;**
  - **Social context**
  - **Young peoples agency and ability to create own social capital**
  - **Youth appropriate and youth specific indicators needed**
  - **Multi-dimensional nature of social capital**
  - **Effect on outcomes other than education**
- **Morrow (1999/2002) 1. 'sense of belonging', 2. 'autonomy and control', 3. 'social networking'**
- **Goodwin and Armstrong-Esther (2004), Billet (2012)**
- **Harpham (2002) distinguishes between a structural dimension, or 'what people do' (bridging) and the cognitive or functional dimension of 'what people feel' (bonding)**

Measurement and Indicators

Onyx et al. (2005) Seven components of youth social capital:

'Capacity Building' factor group

1. Moral principles
2. Trust and safety
3. Belonging with friends
4. Youth social agency

'Arena for expression' factor group

1. Connections with friends
2. Participation in the community
3. Neighbourhood connections

Findings;

- Importance of networks of peers / feeling of safety / moral principles / sense of agency / having a voice
- Community participation increased with age for boys / decreased for girls
- Girls felt less safe than boys

Validation of Onyx's Youth Social Capital Measure

- Koutra et al. (2012) 'good match of theory and empirical evidence'

- Patterns of individual items similar to Onyx et al;
  - **'Arena for expression'** (structural) dimension - three factors;
  1. Participation in the community; 2. Friends and acquaintances;
  3. Neighbourhood connections
    - **'Capacity building'** (functional) dimension -two factors;
       4. Trust and safety and 5. Tolerance to diversity

  (overall α= .771; five factors α from .530 to .730)

- Correlation analysis – similar findings among gender groups; girls scored lower on 'participation in community' and 'trust and safety' dimensions and higher on 'tolerance to diversity' dimension.

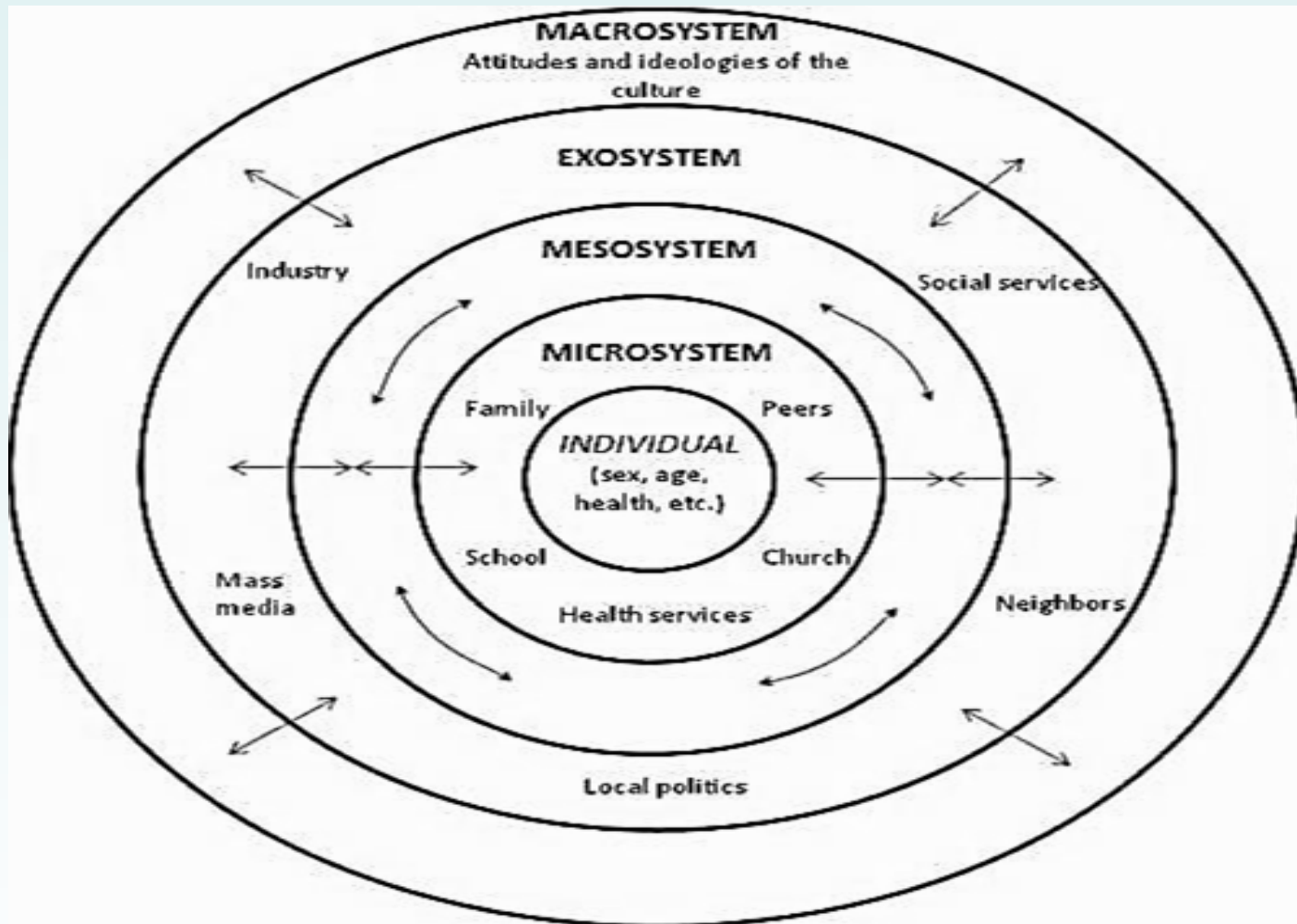# Morgan and Haglund (2009): Multi-dimensionality

Social Capital Domains	Family setting items	School setting items	Neighbourhood setting items
'Sense of belonging'	Frequency/type of family activity:4 items; go for a walk, sit & talk about things, visit friends/ relatives, go places	3 items; enjoy being with classmates, feeling of belonging, feeling safe	3 items; trust people, help from friends/ neighbours & whether people take advantage
'Autonomy'	How often parents control what you do: 2 independent variables; mother controls/ father controls	Decision making & involvement in rules: 2 items; take part in rule making, involved in decisions	Ability to make suggestions/ ideas about 4 different community groups and associations
'Social networking'		1 item; participation in school clubs	1 item; time spent in clubs & associations (e.g. youth sports, drama, adventure, religious groups etc.

Findings of Morgan and Haglund (2009)

- **'Family sense of belonging'** and **'neighbourhood involvement'** strong effect on health; low social capital here → young people nearly twice as likely to report 'less than good health' (OR: 1.87 and 1.96), **'school sense of belonging'** a smaller effect on health (OR: 1.30)

- **'School sense of belonging'** and **'autonomy'** strong impact on well-being; low social capital here → twice as likely (OR: 2.01 & 1.96) to report 'feeling low each week'

- **Gender** - important factor; girls 1.5 times more likely to report 'less good health' and 1.4 times more likely to report 'feeling low each week'. Family affluence not a significant factor

Bio-ecological Model

Inventory of Social Capital Indicators

Domain 1. 'Sense of belonging'	
Item	**Question/s description**
mum_relationship	How well do you get on with your Mum?
mum_response	My Mum doesn't really like me to tell her my troubles My Mum hardly ever praises me for doing well I can count on my Mum to help me out if I have a problem My Mum spends time just talking to me My Mum and I do things that are fun together
pianta_positive	I share an affectionate, warm relationship with my child If upset, my child will seek comfort from me My child values his/her relationship with me When I praise my child, he/she beams with pride My child spontaneously shares information about himself/herself It is easy to be in tune with what my child is feeling. My child openly shares his/her feelings and experiences with me
family_activities	How many days per week do you…..? Sit down to eat together Play sports, cards or games together Talk about things together Do household activities together (e.g. gardening, cooking, cleaning, etc.) Go on an outing together (e.g. going to the cinema, theatre, walking, shopping)

Domain 2. 'Sense of autonomy or agency'	
Item	**Question/s description**
mum_autonomy	My mother tells me that her ideas are correct and that I shouldn't question them.
	My mother respects my privacy
	My mother makes most of the decisions about what I can do
	My mother gives me a lot of freedom
	My mother believes I have a right to my own point of view
can_express_opinion	How regularly does the following take place in school? **I can express my opinions in class**
can_ask_questions	How often does the following take place….? **you are encouraged to ask questions in class**
Domain 3. 'Networks and associations'	
Item	**Question/s description**
sports_with_coach	How often do you do each of these activities….?
	Play sports with a coach or instructor, or as part of an organised team, other than in P.E.
dance_drama_music	How often do you do each of these activities? **Take part in dance, drama or music lessons**
clubs_groups	How often do you do each of these activities….? Take part in **clubs or groups such as Guides or Scouts, youth club, community or church groups**
responsibility_in_ activities	If you do any of the above activities, **do you have special responsibilities, such as team leader, captain, secretary, etc.?**
extra_curricular_ involved	Here are some views about how your child settled into their new school….. **My child is involved in extra-curricular activities**
Domain 4. 'Trust'	
Item	**Question/s description**
high_trust	I wish I had different friends My friends accept me as I am
	My friends listen to what I have to say My friends respect my feelings
	I feel my friends are good friends My friends are fairly easy to talk to
	My friends understand me I trust my friends
	When I am angry about something, my friends try to be understanding
	I can count on my friends when I need to get something off my chest

Domain 5. 'Feelings of safety'	
Item	**Question/s description**
low_rubbish_litter	**How common** would you say that each of the things listed below is in your area….? **Rubbish and litter lying about**
homes_in_good_ condition	**How common** would you say that each of the things listed below is in your area….? **Homes and gardens in bad condition**
low_vandalism_ damage	**How common** would you say that each of the things listed below is in your area….? **Vandalism and deliberate damage to property**
low_drink_drugs_ inpublic	**How common** would you say that each of the things listed below is in your area…..? **People being drunk or taking drugs in public**
safe_area	To what extent do you agree or disagree……….? **This is a safe area for my 13 year old**
places_to_hangout	To what extent do you agree or disagree with these statements….? **There are places in this area where teenagers can safely hangout**
youth_facilities	To what extent do you agree or disagree with these statements..? There are facilities such as **youth clubs, swimming clubs, sports clubs, for teenagers in this area**
Domain 6. 'Friendships'	
Item	**Question/s description**
number_of_friends	**How many friends** do you normally hang around with?
close_friends	How many of these would you describe as **CLOSE friends**?
low_alienation	Talking over my problems with friends makes me feel ashamed or foolish I feel the need to be in touch with my friends more often I feel alone or apart when I am with my friends I feel angry with my friends I get upset a lot more than my friends know about It seems as if my friends are irritated with me for no reason My friends don't understand what I'm going through these days
made_new_friends	Here are some views about how your child settled into their new school. There are no right or wrong answers……….**My child made new friends**
pcgno_of_friends	**About how many close friends does your child have?**

Socio-demographic variables

Item	Question or derived variable description
parent_education	What is the highest level of education (full-time or part-time) which you have completed to date?
hsehold_class	Whichever is the higher social class classification as derived from the current or previous occupation of both the primary and secondary (where relevant)
income	Derived deciles of equivilised household annual income
childparent_ratio	Derived from whether parent is married/cohabiting or living alone with children and the number of children (under 18 years) in the household

Descriptives of items used in Principle Components Analysis

Variable Name	N	Minimum	Maximum	Mean	Std. Dev.	Variance	Skewness
mum_response	7253	5.00	25.00	20.64	3.35	11.25	-.759
mum_autonomy	7236	5.00	25.00	18.36	3.02	9.09	-.471
mum_relationship	7271	1.00	3.00	2.78	.434	.188	-1.75
pianta_positive	7512	11.00	35.00	32.11	3.28	10.79	-1.75
family_actitities	7514	5.00	25.00	17.23	2.82	7.96	-.202
high_trust	7360	10.00	50.00	43.24	6.94	48.12	-1.49
low_alienation	7359	5.00	32.00	23.07	4.29	18.45	-.678
can_express_opinion	7369	1.00	4.00	2.95	.880	.775	-.365
safe_area	7510	1.00	4.00	3.43	.669	.448	-1.13
low_rubbish_litter	7524	1.00	4.00	3.05	.895	.802	-.644
homes_in_good_condition	7524	1.00	4.00	3.39	.665	.443	-.964
low_vandalism_damage	7518	1.00	4.00	3.41	.715	.511	-1.18
low_drink_drugs_inpublic	7518	1.00	4.00	3.47	.745	.555	-1.43
sports_with_coach	7419	1.00	4.00	2.71	1.03	1.05	-.533
extra_curricular_involved	3771	1.00	5.00	4.07	1.22	1.50	-1.25
close_friends	7403	.00	11.00	4.54	2.54	6.45	.829
number_of_friends	7427	1.00	5.00	3.64	.88	.769	-.111
pcgno_of_friends	7517	1.00	5.00	3.81	.89	.809	-.321
Valid N (listwise)	3587						

Multi-dimensional youth social capital Measure - Summary statistics

	Safe_environment	Quality_relationships	Peer_involvement
Alpha level	.841	.660	.607
Individual items	safe area low rubbish and litter homes in good condition low vandalism or damage low drink and drugs in public	mum responsiveness mum autonomy mum relationship high trust low alienation can express opinion family activities Pianta positive	no of friends (pcg) number of friends (child) close friends sports with coach extracurricular involvement
Range of scores	-4.08 to 1.12	-4.34 to 2.32	-3.46 to 2.62
Skewness	-.998	-.712	-.129
Alpha level for overall measure of Social Capital			.701
Overall range			-4.05 to 2.45
Overall skew			-.619

Principle components analysis resulting solution

Component	1	2	3
low_vandalism_damage	.859		
homes_in_good_condition	.822		
low_drink_drugs_inpublic	.807		
low_rubbish_litter	.758		
safe_area	.615		
mum_response		.749	
mum_relationship		.675	
mum_autonomy		.630	
pianta_positive		.495	
low_alienation		.482	.220
high_trust		.481	.276
can_express_opinion		.416	.166
family_actitities	.135	.385	
close_friends			.822
number_of_friends			.776
pcgno_of_friends			.543
sports_with_coach	.107		.430
extra_curricular_involved	.142	.207	.335

χ^2 = 14466.43; df = 153, p< .0001

Corrected inter-item correlation ranged from 1.6 to 4.2

KMO =.766

42.43% of total variance

Correlation

Correlation between components (all values are significant p<.001)

(1)

	Safe_ environment	Quality_ relationships	Peer_ involvement
Safe_environment		.063	.072
Quality_relationships	.063	1	.190
Peer_involvement	.072	.190	1

Correlation between 1 overall social capital and 2 each component and well-being (all values are significant p<.001)

(2)

	Total self-concept	Low mood or depression
Total_social_ capital	.582	-.501

(3)

	Total self-concept	Low mood or depression
Quality_relationships	.532	-.478
Peer_involvement	.289	-.175
Safe_environment	.105	-.069

Correlation between each component and gender (** = p<.001, * =p<.05)

(4)

	Quality relationships	Peer involvement	Safe environment
Child gender	-.154**	.042*	.029*

Differences in mean social capital levels depending on gender and child parent ratio

Variable Scale	Male	Female	One Parent	Two Parents
Overall Social Capital	-.22***	-.08*** (2.28%)	-.20***	-.03*** (1.38%)
Quality Relationships	-.18***	.11*** (2.19%)	-.11*	-.02* (.35%)
Peer Involvement	-.00	-.06	-.17***	.00*** (1.42%)
Safe Environment	-.05** (.14%)	-.13**	-.38***	-.02*** (2.62%)

(*** p<.001; ** p< .005; * p<.05)

Differences in mean social capital levels depending on Income, class and parents education

Variable Scale	High income	Low income	High class	Low class	High education	Low education
Overall Social Capital	-.03	-.08	-.04	-.11	-.05	-.07
Quality Relationships	-.02	-.05	-.03	-.04	-.05	-.03
Peer Involvement	.07* (1.10%)	-.14*	.04* (.90%)	-.16*	.07* (.74%)	-.11*
Safe Environment	.04* (1.28%)	-.20*	.05* (4.43%)	-.35*	.06* (1.57%)	-.20*

(* $p < .001$)

Outcome variables

Item	Scale description
total self -concept score	**Piers-Harris 2 Children's Self-Concept Scale - Consists of an overall total score and six sub domains including:** • Behavioural Adjustment • Intellectual and School Status • Physical Appearance and Attributes • Freedom from Anxiety • Popularity • Happiness and Satisfaction
Drumcondra reasoning tests logit scores	• **Verbal Reasoning** • **Numerical Ability**

Regression residuals plots

Following initial regression of total self-concept with socio-demographic and social capital variables showing normality and heteroscedasticity violations

Following multiple regression of total self-concept with socio-demographic and the dependent variable squared
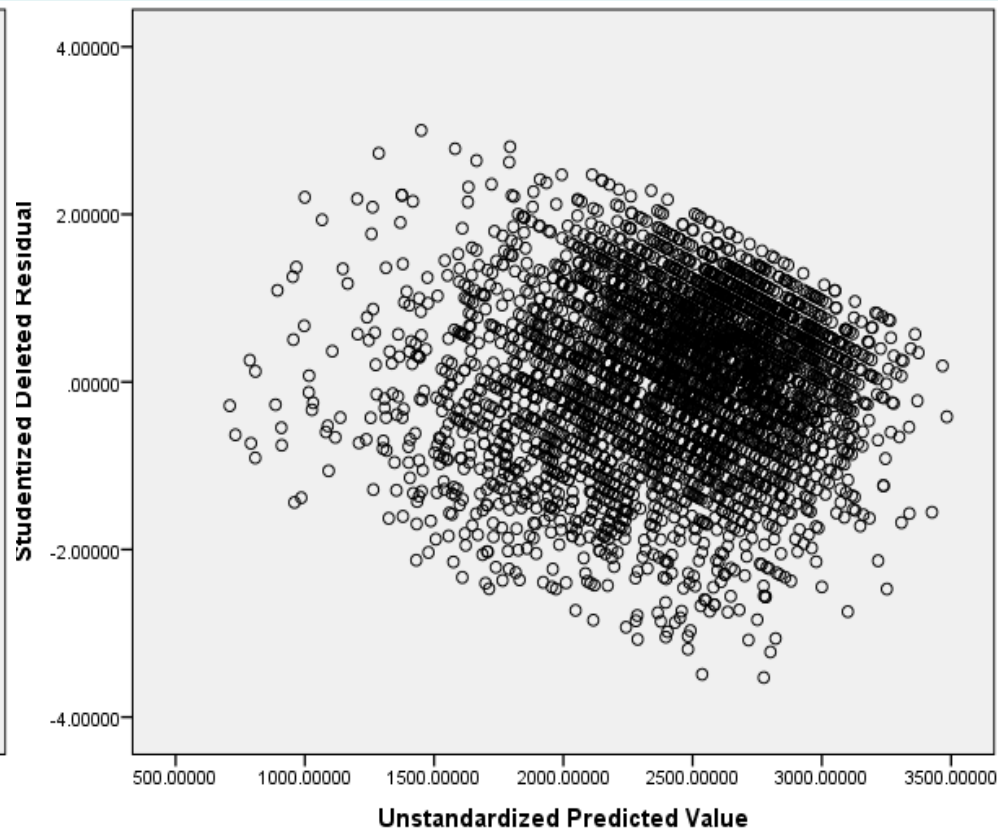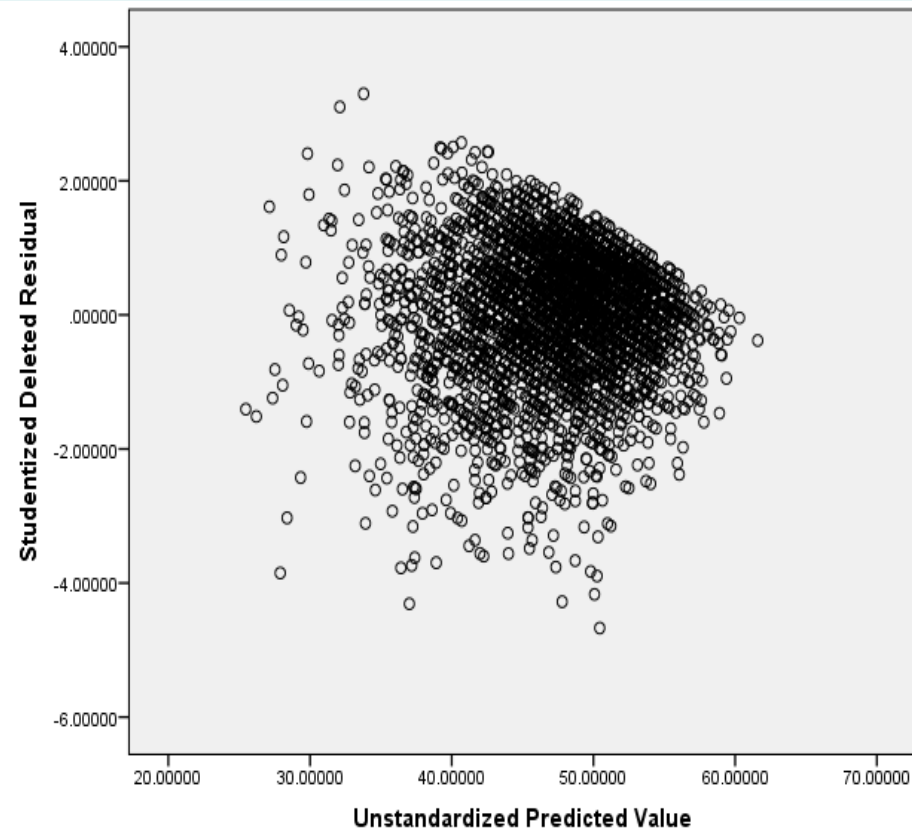
Results from multiple regression of self concept scores (squared), social capital subscale scores and socio-demographic variables

	Model 1			Model 2			Model 3		
	$[F(1, 3322) = 43.567; p < .001]$			$[F(5, 3318) = 11.623; p < .001]$			$[F(4, 3572) = 538.637; p < .001]$		
	B	β	R^2 Adjusted	B	β	R^2 Adjusted	B	β	R^2 change
Gender	167.65	.114**	.013**	165.32	.112**	**.011****	285.33	.194**	
Quality relationship							393.82	.551**	**.336****
Peer Involvement							124.25	.166**	**.027****
Safe Environment							33.24	.046*	**.002****

Dependent variable: PH Self Concept total scores squared

Final Model Adj. R^2 = .376

Non-significant variables removed:
hsehold_class: (β =.034; t = 1.606, p=.108)
no_ofParents :(β = .027; t = 1.456, p=.146)
income: (β= .029; t =.1.422, p=.155)
parent_education: (β. = .001; t =060, p=.952)

Intercept: 2014.291

*p<.005

**p<.001

Correlation between overall social capital level and Drumcondra test scores (significant P<.001)

	Total maths and reading logit scores
Overall Social Capital	.075

Correlation between social capital components and Drumcondra test scores (* = P<.001)

	Quality relationships	Peer involvement	Safe environment
Total maths and reading logit scores	.073*	.018	.123*

Results from multiple regression of Drumcondra test scores, social capital subscale scores and socio-demographic variables

	Model 1 [F (1, 6370) = 143.077; p < .001]			**Model 2** [F (5, 6366) = 230.512; p < .001]			**Model 3** [F (7, 6364) = 179.384; p < .001]		
	B	**β**	**R^2 Adj.**	**B**	**β**	**R^2 change**	**B**	**β**	**R^2 change**
Gender	.272	.148*	**.022***	.245	.133*		.269	.146*	
Parent's education				.161	.218*	**.095***	.158	.214*	
Family income				.039	.121*	**.024***	.038	.118*	
Household class				.058	.105*	**.010***	.056	.101*	
Number of Parents				.051	.043*	**.002***	.044	.037*	
Quality relationship							.083	.090*	**.008***
Safe Environment							.052	.056*	**.003***

Final Model Adj.R^2= .164*

Dependent variable: Drumcondra School test scores (Intercept: -1.740)

Limitations, implications and recommendations

- Ecological level of collective social capital not accounted for

- Alternative scaling procedure such as item response theory

- Secondary data analysis

- Move away from arbitrary indicators of earlier models

- Concept led, psychometric model, Multi-dimensional

- Some degree of validity

- Need primary data specifically relating to youth social capital

- Mixed methods / a preliminary qualitative study / participatory methods

References

Bourdieu, P. (1986). *The forms of capital*. In J. Richardson (Ed.), Handbook of theory and research for the sociology of education (pp. 241-258). Westport, CT: Green- wood Press

Coleman, J. (1988). *Social capital in the creation of human capital*. American Journal of Sociology, 94 (Issue Supplement), S95-S 120

Darmody, M., Robson, K. and McMahon, L. (2012). *Young people and social capital: transition from primary schools to lower secondary level.* Irish Journal of Sociology, Vol. 20.1, pp. 19-38

Dika, S.L. and K. Singh. (2002). *Applications of social capital in educational literature: a critical synthesis*. Review of Educational Research 72(1): 31-60

Portes, A. (2000). *The two meanings of social capital*. Sociological Forum, 15(1), 1-12.

Putnam, R.D. (1995). *Bowling Alone: America's Declining Social Capital*. Journal of Democracy 6.1, pp 65-78

Socio-demographic variables

Item	Question or derived variable description
parent_education	**What is the highest level of education (full-time or part-time) which you have completed to date?** 1. None or primary only 2. Lower secondary 3. Higher secondary/technical/vocational qualification 4. Non degree 5. Primary degree 6. Postgraduate qualification
hsehold_class	**Whichever is the higher social class classification (as below) as derived from the current or previous occupation of both the primary and secondary (where relevant)** 1. Validly no social class 2. All others gainfully occupied and unknown 3. Unskilled 4. Semi-skilled 5. Skilled manual 6. Non-manual 7. Managerial and technical 8. Professional workers
income	**Derived deciles of equivilised household annual income from** 1. Lowest to 10. Highest
childparent_ratio	**Derived from whether parent is married/cohabiting or living alone with children and the number of children (under 18 years) in the household and coded** 1. One parent and three plus children 2. One parent and one or two children 3. Two parents and three plus children 4. Two parents and one or two children