Published in final edited form as:

Matern Child Health J. 2013 January ; 17(1): 14–22. doi:10.1007/s10995-012-0958-2.

Measurement of Maternal Instrumental Support: Findings from Three Population-Based Cohort Studies

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Abstract

To advance the conceptualization and measurement of mother-reported instrumental support, the degree to which an individual receives assistance in the completion of daily life tasks. The psychometric properties of a 9-item instrumental support scale were evaluated using classical (descriptive statistics, factor analyses, evaluation of construct validity) and modern (Rasch modeling, differential item functioning) methods. Differences in perceived instrumental support were evaluated as a function of mothers' socio-demographic characteristics. Factor analytic and differential item functioning analyses provided support for two components of instrumental support, household and childcare assistance. Instrumental support is distinct from structural support and the quality of mothers' social relationships. Socio-demographic characteristics (e.g., marital status, education level, income) are associated with access to instrumental support. Differentiating appropriately between support subtypes may reveal important differences in mother's qualitative instrumental support experiences and facilitate effective targeting of social support interventions

Keywords

Instrumental support; Social support; Measurement; Psychometric

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Conflict of interest None to disclose.

Introduction

Prior research reveals direct associations between maternal social support and child health outcomes including birth weight, irritability, and caregiver attachment [1]. Lack of social support may influence child outcomes indirectly through its association with increased prevalence of child abuse, maternal depression, and prenatal complications [2, 3]. Higher levels of maternal social support are associated with positive child outcomes by enhancing parenting skills and home stimulation [4, 5]. These associations suggest that interventions aimed at improving maternal social support may contribute to positive outcomes in childhood and subsequently, across the lifespan.

A theoretically-grounded and empirically-derived conceptualization of social health should underlie its assessment. Theorists have proposed various typologies to organize the many facets of social interactions [6–8]. For example, House and Kahn [6] differentiated among social networks (network size, density, intensity, etc), social relationships (quantity and type of relationships), and social supports (resources provided by others). Social networks and relationships represent structural support, the existence of interconnections among social ties, whereas social support encompasses the degree to which interpersonal relationships serve particular functions. Social support may be further compartmentalized based on function (e.g., perceived quality of interpersonal support, the availability of material aid) [9]. Instrumental support, the degree to which an individual receives assistance in the completion of daily life tasks, is an important but often neglected component of social support [10].

Despite several examples of theoretical differentiation among social support subtypes [6–8, 10], researchers have tended to conceptually and empirically aggregate them [10]. The few studies that distinguish social support sub-types demonstrate that specific types of social support have different effects on health and functional outcomes [10–13]. Thus, research examining only overall social support may obscure the impact that specific subtypes have on maternal/child health outcomes. The purpose of this study is to advance the measurement of instrumental support, a relatively neglected, but important component of maternal social support. We hypothesized that mothers are reliable reporters of their instrumental support resources and explored the value of differentiating between multiple instrumental support subtypes.

Methods

Study Population

The Maternal Social Support Index (MSSI) was administered as part of three population-based cohort studies: the Health Insurance Improvement Project (HIP), the Tailoring Pediatric Preventive Care Project (P3), and the Social Capital Scale Study (SCS). Psychometric analyses were conducted using data collected from 3,040 mothers of infants and children (533 from HIP, 1,929 P3, and 578 from SCS). Socio-demographic characteristics of participants in each sub-sample are presented in Table 1.

Measures

The MSSSI consists of 21-items designed to evaluate a mother's qualitative and quantitative social support. The present analyses focus on 9 MSSSI items that assess instrumental support. All items had dichotomous response categories (0 = mother took sole responsibility for a specific task; 1 = another individual helped in completing the task). Three MSSSI items were used to assess the size of mothers' social networks: (1) How many relatives do you see once a week or more often?; (2) How many people can you count on in times of need?; and (3) How many people would be able to take care of your children for several hours if needed?. Two MSSSI items were used to assess the quality of mothers' social relationships: (1) How satisfied are you with the talks that you have with your boyfriend or husband?; and (2) How satisfied are you with the talks that you have with adults, not including your boyfriend or husband?

Study Procedures

HIP is a longitudinal prospective cohort study of Medicaid-eligible mothers and their healthy infants. Mothers provided socio-demographic information shortly after their child's birth and were administered the MSSSI 12 months later using a computer-assisted telephone survey system. P3 is a field-testing and validation study of mothers whose children received primary care at one of four urban primary care practices. Mothers provided socio-demographic information and completed the MSSSI upon study enrollment. SCS study is a cross-sectional survey of families whose children received primary care within the Southwestern Ohio Ambulatory Research Network (SOAR-Net), a network of suburban and rural general pediatric and family medicine practices and a sample of children from a local children's hospital developmental clinic. Upon enrollment in the study, mothers completed a comprehensive survey, which included socio-demographic information, the MSSSI and other validated questionnaires. All three studies were conducted following prevailing ethical principles and were approved by their respective Institutional Review Boards HIP from the University of Pennsylvania and The Children's Hospital of Philadelphia, P3 from The Children's Hospital of Philadelphia, and SCS from Wright State University.

Statistical and Psychometric Analyses

Response frequencies were calculated for each item and compared among the sub-samples (Table 1). The dimensionality of the instrumental support scale was evaluated by fitting the data to one- and two-factor confirmatory factor analysis (CFA) models. For the single factor model, we specified that all items load onto a single dimension. For the two-factor model, we distinguished between childcare and household support items. Internal consistency reliability for all items, childcare items, and household items were estimated using Cronbach's alpha statistic (Table 2).

Rasch models were fit to the data for all items (1 factor model) and for the childcare and household support items separately (2 factor model). Item fit to the Rasch model was evaluated through inspection of infit and outfit statistics and post-hoc estimated empirical item discrimination parameters using Winsteps [14] (Table 2). Item difficulty parameters were inspected to determine whether items supported the comprehensive measurement of an instrumental support construct with minimal gaps and redundancy. Item-person map for the

one-factor model were generated for each sub-sample to illustrate the relative distributions of instrumental support levels (ability) and item difficulty estimates (Table 3). Tests of uniform differential item functioning (DIF) were conducted to identify systematic errors due to sub-sample bias in the measurement of instrumental support when it is measured as one factor (all items) or 2 factors (childcare and household support items). A significant DIF contrast value as evidenced by the Mantel-Haenszel significance test is an indicator of item bias; specifically, that after adjusting for overall instrumental support, mothers in one subgroup scored higher or lower on an item than those in another [15].

Thereafter, scale scores were calculated by averaging constituent items such that all scale scores ranged from 0 to 1 with higher scores indicating more support. Associations among social networks, social relationships, and instrumental support were evaluated using Pearson Product Moment Correlation (Table 4). Finally, differences in instrumental support were evaluated between mothers in the different sub-samples and among those with varying socio-demographic characteristics using generalized linear models (GLM). Prior to fitting the GLM models, instrumental support scale scores were transformed ($M = 100$, $SD = 20$) to ease interpretation of between-group comparisons. Two GLMs were fit to the data to identify group differences in instrumental support by sub-sample (model 1) and as a function of socio-demographic characteristics (model 2).

Results

Socio-demographic Characteristics of Study Samples

The socio-demographic characteristics of participating mothers are presented in Table 1. Across all three samples, mothers had nearly equal proportions of male and female children. Consistent with differences in study location and population inclusion criteria, the largest proportion of children in the HIP and P3 samples were African-American and the largest proportion of children in the SCS sample was White. The majority of families included two parents in the SCS and P3 samples, whereas single-parent families pre-dominated the HIP sample. Maternal educational attainment was lowest in the HIP sample and comparable in the P3 and SC samples. Consistent with trends in educational attainment, families in the HIP sample had lower annual income.

Dimensionality of Instrumental Support

Item endorsement rates are presented in Table 1. The one-factor CFA model adequately fit the data; however, the 2-factor model was a better fit for the data as indicated by all fit statistics and item loadings (Table 2). Estimates of internal consistency reliability were adequate for the one- factor model ($\alpha = 0.81$) and for both dimensions in the two-factor model (household support: $\alpha = 0.76$; childcare support: $\alpha = 0.71$). A moderate correlation was observed between the household and childcare support subscales ($r = 0.52$, $p < 0.0001$).

Estimated Rasch Parameters and Model Fit

Given the adequacy of both the one- and two-factor CFA models, Rasch models were fit to the data for all items (1 factor model) and for the childcare and household support items separately (2 factor model) (Table 2). For the model containing all items, estimated

participant ability levels ranged from -4.03 to 3.89 ($M = -0.15$, $SD = 2.09$), with 9.9% of the sample demonstrating floor effects and 5.6% demonstrating ceiling effects. Item difficulties ranged from -2.01 to 1.61 ($M = 0.00$, $SD = 1.20$) indicating that items covered a broad range of instrumental support experiences. Item difficulties were redundant for “fixing meals” and “grocery shopping,” but no substantial gaps between item difficulties were noted. All but a single item (outside work) had satisfactory fit indices. Mothers’ responses to this item were unpredictable, primarily because mothers with low support indicated that they received help with outside work at higher than expected levels (outfit = 1.86, $a = 0.70$). Tests of DIF in the Rasch model containing all items, revealed systematic differences in the way that mothers from different sub-samples responded to 5 of the 9 items. This indicated that when all items are considered in the measurement of a single instrumental support construct, mothers from different sub-populations who report comparable levels of instrumental support have qualitatively different instrumental support experiences. Among mothers with approximately equivalent levels of instrumental support, those from the HIP sample receive less support putting their children to bed, whereas mothers from the SCS sample receive less support with inside cleaning and paying bills. Mothers from the SCS sample received more support in teaching their children right from wrong, outside work, and fixing things (Table 3).

DIF contrast values provided evidence for the separation of household and childcare support items, which is further supported by the adequacy of fit for the 2-factor CFA model. Infit/outfit discrimination parameters indicated adequate fit to the Rasch models, when they are fit separately to the childcare and household support item responses (Table 2). Estimated participant ability levels for the 3-item childcare support scale ranged from -3.01 to 2.91 ($M = -0.65$, $SD = 2.27$), with 39.3% of the sample demonstrating floor effects and 18.4% demonstrating ceiling effects. Average item difficulties ranged from -1.93 to 1.68 ($M = 0.00$, $SD = 0.81$), indicating that items covered a broad range in childcare support even though the scale was composed of just three items. Estimated participant ability levels for the 6-item household support scale ranged from -3.63 to 3.59 ($M = 0.20$, $SD = 2.19$), with 11.3% of the sample demonstrating floor effects and 15.0% demonstrating ceiling effects. Average item difficulties ranged from -1.79 to 1.50 ($M = 0.00$, $SD = 1.31$). As observed in the 9-item model, redundancy in item difficulty was observed for “fixing meals” and “grocery shopping,” but no substantial gaps between item difficulties were noted. Most importantly, tests of DIF revealed no systematic differences in the way that mothers from different sub-samples responded to items when the two dimensions of instrumental support were considered separately.

Modest associations were observed between instrumental support and two indicators of mothers’ structural support networks: the number of relatives seen at least weekly and the number of people who could provide childcare. The quality of mothers’ relationships with her boyfriend/husband was modestly associated with instrumental support (Table 4).

Prediction of Instrumental Support

Subsample and Socio-demographic Differences—Mothers in the SCS sample experienced less household support than those in the HIP and P3 samples. Mothers in the

HIP sample experience less childcare support than those in the P3 and SCS samples. Single mothers and those with lower family income have less household and child-care support. In contrast, mothers with the lowest maternal education reported having the greatest level of household support (Table 5).

Discussion

This paper aimed to inform the conceptualization and measurement of maternal instrumental support using data derived from three socio-demographically diverse samples. Mothers from the SCS sample had the least household support perhaps reflecting geographic or cultural differences in domestic responsibilities that are traditionally met by women. An inspection of sub-sample differences at the item level reveals that low levels of household support experienced by SCS mothers is attributable to having sole responsibility for fixing meals, grocery shopping, and inside cleaning. In contrast, HIP mothers had less support in meeting their childcare responsibilities, possibly because they are more likely than their P3 and SCS counterparts to be single parents.

Subsample differences indicated that instrumental support manifests as two distinct experiences: support with childcare and support with household tasks. Although classical test approaches to the evaluation of the scale containing all 9 instrumental support items provided some evidence of unidimensionality, the 2-factor model was a better fit for the data. Further evidence for the dualdimensionality of instrumental support experiences was provided by DIF analyses. It is important to note that unlike basic frequencies, DIF analyses control for the level of instrumental support when examining sub-sample differences in item endorsement. In the 9-item model, mothers from different sub-samples with comparable levels of instrumental support expressed qualitatively different instrumental support experiences. The measurement of instrumental support as a single (undifferentiated) construct may mask these differences, which are importance for targeting interventions. By disaggregating the 9 instrumental support items into household and childcare support, sub-sample differences that are attributable to true experiential variation (not measurement bias) are detectable. Further, IRT models that were fit separately to household and childcare support items indicate that a substantial range in experiences can be detected, even with a relatively small number of items. In fact, redundancy in item difficulty parameters for “fixing meals” and “grocery shopping” suggests that by removing one of these items, the household support scale could be reduced without compromising its measurement properties.

Instrumental support is distinguishable from the size of mothers’ social networks and the quality of their social relationships. Only modest associations were observed among instrumental support and structural support and the quality of social relationships. Distinguishing among the various facets of social support is important because each may make very specific contributions that enhance maternal and child health [10–12].

Limitations and Implications for Future Research

This study illustrates that MSSI items can be used to assess childcare and household support reliably and in a manner that varies predictably among socio-demographic subgroups.

Further advancement in the measurement of instrumental support should include an explicit evaluation of associations between perceived support and maternal/child health outcomes. In particular, instrumental support instruments should be evaluated based on how well they guide the selection of the most appropriate support-enhancing intervention.

This study included an evaluation of associations between a number of socio-demographic characteristics and mothers' access to social support. However, a number of other factors that may influence mothers' access to social support or its impact on health outcomes should be identified. These may include culturally defined role expectations, child health status, and maternal health status (e.g., depression). Although a strength of the present study is its inclusion of mothers from within 3 diverse populations, the instrumental support instruments should be evaluated within an even greater number of socio-demo-graphically and geographically diverse subgroups over time because caregiver expectations may change as a function of evolving gender role expectations and economic demands. Finally, scales should be expanded with sensitivity to changes in caregivers' responsibilities as children age. Participants in the present study all had very young children (mean age = 4.1 months). An advantage of our approach to developing two unique instrumental support scales using IRT is that items can be added to maximize coverage of the underlying constructs. The addition of items would result in expanded item banks that could be administered using computerized adaptive test technology, an increasingly preferred strategy for assessing outcomes in clinical effectiveness research [16].

Acknowledgments

This work was supported by grants from the Commonwealth Fund (Dr. Pati) and from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (K23HD047655 to Dr. Pati). We thank the networks of primary care physicians, their patients and families within the Southwestern Ohio Ambulatory Research Network for their contributions to clinical research through the Pediatric Research Consortium (PeRC) at The Children's Hospital of Philadelphia and the Dayton Primary Care Practice-Based Research Network (DPCPBRN). We thank Adrienne Stolfi for her assistance with biostatistics. We also thank Angie Wong for her editorial assistance with this project.

Abbreviations

MSSI	Maternal Social Support Index
HIP	Health Insurance Improvement Project
P3	Tailoring Pediatric Preventive Care Project
SCS	Social Capital Scale Study
SOAR-Net	Southwestern Ohio Ambulatory Research Network
CFA	Confirmatory factor analysis
DIF	Differential item functioning
GLM	Generalized linear models

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Sample comparisons of socio-demographics characteristics and responses to instrumental support items

Table 1

	Combined (<i>n</i> = 3,040)	Sub-samples		SC study (<i>n</i> = 578)	Sub-sample comparisons <i>p</i> Value
		HIP study (<i>n</i> = 533)	P3 study (<i>n</i> = 1,929)		
Socio-demographic characteristics					
Child age in months, M(SD)	4.1 (3.7)	2.2 (1.0)	3.8 (3.0)	6.2 (4.7)	<0.0001
Child gender, <i>n</i> (%)					0.6007
Male	1,550 (51.0)	269 (50.5)	968 (50.2)	305 (52.8)	
Female	1,490 (49.0)	264 (49.5)	961 (49.8)	273 (47.2)	
Child race, <i>n</i> (%)					<0.0001
White	738 (24.3)	25 (4.7)	193 (10.0)	380 (65.8)	
African American	1,884 (62.0)	444 (83.3)	1,422 (73.7)	133 (23.0)	
Other	418 (13.8)	64 (12.0)	314 (16.3)	65 (11.2)	
Family structure, <i>n</i> (%)					<0.0001
Two parents	1,368 (45.0)	68 (12.8)	968 (50.2)	383 (66.3)	
Single parent	1,672 (55.0)	465 (87.2)	961 (49.8)	195 (33.7)	
Maternal education, <i>n</i> (%)					<0.0001
Less than high school	544 (17.9)	167 (31.3)	263 (13.6)	71 (12.2)	
High school diploma/GED	1,006 (33.1)	124 (23.3)	664 (34.4)	233 (40.4)	
More than high school	1,490 (49.0)	242 (45.4)	1,002 (52.0)	274 (47.4)	
Income, <i>n</i> (%)					<0.0001
Under \$30,000 a year	2,043 (67.2)	517 (97.0)	1,117 (57.9)	312 (53.9)	
\$30,000 or more a year	997 (32.8)	16 (3.0)	812 (42.1)	266 (46.1)	
Instrumental support, <i>n</i> (%) of mothers with assistance)					
Fixes meals	1,091 (35.9)	194 (36.4)	738 (38.3)	159 (27.5)	<0.0001
Grocery shopping	1,110 (36.5)	189 (35.5)	779 (40.4)	142 (24.6)	<0.0001
Fixes things around house	2,193 (72.1)	368 (69.0)	1,362 (70.6)	463 (80.1)	<0.0001
Inside cleaning	1,345 (44.2)	243 (45.6)	920 (47.7)	182 (31.5)	<0.0001
Works outside around home	2,082 (68.5)	376 (70.5)	1,278 (66.3)	428 (74.1)	0.0010
Pays bills	1,896 (62.4)	332 (62.3)	1,259 (65.3)	305 (52.8)	<0.0001

	Combined (n = 3,040)	Sub-samples		Sub-sample comparisons	
		HIP study (n = 533)	P3 study (n = 1,929)	SC study (n = 578)	p Value
Lets children know right from wrong	1,656 (54.5)	255 (47.8)	1,069 (55.4)	332 (57.4)	0.0023
Takes child to doctor when he/she is sick	866 (28.5)	119 (22.3)	624 (32.4)	123 (21.3)	<0.0001
Sees to it that children go to bed	1,146 (37.7)	135 (25.3)	766 (39.7)	245 (42.4)	<0.0001
<i>Structural support, M(SD)</i>					
Number of relatives mother sees 1+ time/week	3.6 (1.6)	3.1 (1.3)	4.3 (1.6)	2.8 (1.3)	<0.0001
Number of people mother can count on	3.1 (1.7)	4.0 (1.8)	1.9 (0.4)	4.1 (1.8)	<0.0001
Number of people who could take care of children	2.2 (1.1)	1.8 (0.5)	2.7 (1.4)	1.8 (0.4)	<0.0001
<i>Social relationships (degree to which mother is satisfied with...), M(SD)</i>					
Talks with boyfriend of husband ^a	2.7 (1.4)	2.2 (1.7)	3.1 (1.2)	2.7 (1.4)	<0.0001
Talks with other adults ^a	2.9 (1.4)	2.7 (1.6)	3.2 (1.1)	3.1 (1.1)	<0.0001

p Values are for the exact Chi-square test of association for instrumental support items and for univariate tests of mean differences for child age, structural support, and social relationship items

^aCoded: 0 = no boyfriend/husband/other, 1 = very dissatisfied, 2 = dissatisfied, 3 = satisfied, 4 = very satisfied

Table 2
Results of one- and two-factor confirmatory factor analyses and Rasch item fit statistics and parameters

	One-factor			Two-factor						
	CEA loadings	Rasch model			CEA loadings		Rasch models			
		Factor 1: All items			1	2	Factor 1: Child care		Factor 2: Household items	
		Infit (outfit)	Discrim	Average diff			Infit (outfit)	Discrim	Infit (outfit)	Average diff
Fixes meals	0.77	0.93 (0.90)	1.12	1.01	0.80		–	–	0.94 (1.03)	1.07
Grocery shopping	0.81	0.87 (0.74)	1.24	1.00	0.84		–	–	0.83 (0.70)	1.27
Fixes things around the house	0.65	1.16 (1.83)	0.75	–2.01	0.68		–	–	1.14 (1.42)	0.75
Inside cleaning	0.75	0.94 (0.95)	1.10	0.40	0.78		–	–	0.92 (0.93)	1.14
Works outside around home	0.62	1.17 (1.86)	0.70	–1.60	0.65		–	–	1.11 (1.64)	0.75
Pays bills	0.75	0.97 (1.07)	1.02	–0.88	0.78		–	–	0.91 (0.99)	1.11
Lets children know right from wrong	0.81	0.87 (0.84)	1.21	–0.32		0.92	1.06 (1.29)	0.88	–	–
Takes child to doctor when he/she is sick	0.66	1.03 (1.18)	0.93	1.61		0.74	1.11 (1.36)	0.79	–	–
Sees to it that children go to bed	0.77	0.98 (0.89)	1.06	0.81		0.85	0.78 (0.78)	1.43	–	–
Model fit/internal consistency										
Chi-square (<i>df</i>)	1,264.64 (27)					641.06 (26)				
CFI	0.91					0.96				
RMSEA	0.12					0.09				
α	0.81					0.76				
						0.71				

Comparison of Chi-square fit statistics indicates that the two-factor model is a better fit to the data ($p < 0.0001$)

Table 3

Item-person maps of instrumental support items by sub-sample

HIP			P3			SC		
Person distribution	Item difficulty	Person distribution	Item difficulty	Person distribution	Item difficulty	Person distribution	Item difficulty	Person distribution
	Highest support		Highest support		Highest support		Highest support	
**	2.6	*****	2.6	*****	2.6	*	2.6	*
	2.4		2.4		2.4	**	2.4	**
****	2.2	*****	2.2	*****	2.2		2.2	
	2.0		2.0		2.0		2.0	
	1.8		1.8		1.8	****	1.8	****
*****	1.6	*****	1.6	*****	1.6		1.6	
	1.4		1.4		1.4		1.4	
	1.2		1.2		1.2	*****	1.2	*****
*****	1.0		1.0		1.0		1.0	
	0.8		0.8		0.8		0.8	
	0.6		0.6		0.6	*****	0.6	*****
*****	0.4		0.4		0.4		0.4	
	0.2		0.2		0.2		0.2	
0.0	Inside cleaning	*****	0.0	*****	0.0	*****	0.0	*****
-0.2	Child: right/ wrong		-0.2		-0.2		-0.2	
-0.4			-0.4		-0.4		-0.4	
-0.6			-0.6		-0.6		-0.6	
-0.8			-0.8		-0.8		-0.8	
-1.0			-1.0		-1.0	*****	-1.0	*****
-1.2	Pays bills	*****	-1.2	*****	-1.2		-1.2	
-1.4			-1.4		-1.4		-1.4	
-1.6			-1.6		-1.6		-1.6	
-1.8	Fixes things	*****	-1.8	*****	-1.8	*****	-1.8	*****
-2.0	Works outside around home		-2.0		-2.0		-2.0	
-2.2			-2.2	*****	-2.2		-2.2	

HIP				P3		SC	
Person distribution	Item difficulty	Person distribution	Item difficulty	Person distribution	Item difficulty	Person distribution	Item difficulty
*****	-2.4 -2.6		-2.4 -2.6	*****	-2.4 -2.6	*****	-2.4 -2.6
*****	-2.8 Lowest support	*****	-2.8 Lowest support	*****	-2.8 Lowest support	*****	-2.8 Lowest support

The vertical scales represent the relative degree of instrumental support with higher numbers (theta) indicating greater support. Asterisks represent the distribution of respondents along the instrumental support continuum (for HIP * = 10 people; for P3 * = 20 people; and, for SC * = 10 people). Item labels are shown at the item's difficulty level on the instrumental support continuum. Differences in item placement between samples indicate differential item functioning such that items are biased in the following directions

- ^aHIP mothers are biased toward reporting less support
- ^bSC mothers are biased toward reporting less support
- ^cSC mothers are biased toward reporting more support

Table 4
Descriptive statistics for structural support/social relationships and their associations with instrumental support subtypes

	M(SD)	Range	Associations with instrumental support r (p)	
			Household support	Childcare support
Structural support				
Number of relatives mother sees 1 + time/week	3.5 (1.6)	0–6	0.15 <0.0001	0.13 <0.0001
Number of people mother can count on	3.1 (1.7)	0–6	0.02 (0.3452)	0.05 (0.0345)
Number of people who could take care of children	2.2 (1.1)	0–4	0.12 <0.0001	0.22 <0.0001
Social relationships (degree to which mother is satisfied with....)				
Talks with boyfriend or husband ^a	2.7 (1.4)	0–4	0.16 <0.0001	0.22 <0.0001
Talks with other adults ^a	2.9 (1.4)	0–4	0.02 (0.4382)	0.09 (0.0023)

^aCoded: 0 = no boyfriend/husband/other, 1 = very dissatisfied, 2 = dissatisfied, 3 = satisfied, 4 = very satisfied

Table 5

Estimated mean levels of domestic and childcare support based on generalized linear models

	Household support	Childcare support
<i>Model 1: Sample^a</i>		
HIP	100.27	96.16
P3	101.55	101.80
SC	97.20	100.59
<i>p</i> Value	0.0002	<0.0001
<i>Model 2: Socio-demographic characteristics^b</i>		
Race/ethnicity		
African American	101.18	101.44
White	99.89	101.27
Other	102.29	102.79
<i>p</i> Value	0.2918	0.5453
Marital status		
Single parent	97.99	95.45
Two parents	104.25	108.22
<i>p</i> Value	<0.0001	<0.0001
Maternal education level		
Less than high school	105.09	103.25
High school diploma or GED	99.20	100.56
More than high school or GED	99.06	101.69
<i>p</i> value	<0.0001	0.1324
Family income		
Less than \$30,000 per year	99.30	99.83
\$30,000 per year or more	102.94	103.84
<i>p</i> Value	0.0014	0.0003

^aWilks Lambda multivariate test of overall differences reveal significant differences in household and childcare support by sample [$F(4,4112) = 14.58, p < 0.0001$]

^bWilks Lambda multivariate test of overall differences reveal significant differences in household and childcare support by marital status [$F(2,1806) = 77.24, p < 0.0001$], maternal education [$F(4,3612) = 6.26, p < 0.0001$], and family income [$F(2,1806) = 7.82, p = 0.0004$]