

Standardization of the Special Time Interactions Checklist from the "Incredible Years" Program and Extraction of Its Factor Structure in the Arab Context

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Abstract

The Special Time Interactions Checklist, for Early School Age Stage, developed by carolyn webster-stratton, forms a core component of the Incredible Years program, which focuses on enhancing positive parent-child interactions for children aged 0-12 years. Special time is employed as a central strategy to improve emotional and behavioral communication, thereby reducing behavioral problems and promoting psychological development.

This study aims to standardize the checklist and extract its functional factor structure as a psychometric tool for measuring the quality of parent-child interactions in the Arab context, noting that it lacks original standardized psychometric indicators. Standardizing this checklist

facilitates local adaptation of the program, supporting preventive interventions against negative interactions in Arab families.

Methodology: Exploratory factor analysis of 23 items on a sample of 518 Arab fathers and mothers.

Results: The analysis yielded three main factors (supportive, interactive, communication time efficacy) explaining 58.4% of the total variance, with a Kaiser-Meyer-Olkin measure (KMO = 0.82) and Cronbach's alpha coefficients ranging from 0.79 to 0.85.

Conclusion: The checklist demonstrates high psychometric validity for use in the Arab context. The findings contribute to developing evidence-based Arabic guidance interventions, particularly in

addressing the prevalence of digital screens that hinder parent-child interactions.

Keywords: Standardization, Special Time Interactions Checklist, Incredible Years program, parent-child interaction, psychometrics.

Theoretical Background

Many individuals believe that children's success begins upon school entry, with primary emphasis placed on cognitive skills typically measured through academic achievement tests. This perspective often overlooks the critical importance of social skills, self-regulation, and non-cognitive competencies during early childhood, despite strong evidence that these skills significantly predict success in later developmental stages.

James and Henry (2007) emphasize that society cannot afford to delay investment in child development until adolescence or school age, as such intervention would be insufficient and untimely. High-quality early childhood interventions are essential due to their lasting effects on learning, achievement, and motivation. Similarly, Dodge (2007) notes that psychologists, sociologists, and public health experts have long recognized the decisive importance of early childhood development, highlighting factors such as maternal and child health, adequate nutrition, effective parenting, strong social support, and opportunities for positive social interaction beyond the home environment.

Shonkoff (2010) stresses that experiences during early childhood have lifelong consequences. Children require stable relationships in their early years to ensure healthy development across the lifespan. Research indicates that early exposure to

maltreatment or neglect can disrupt children's stress biology, thereby influencing learning, health, and behavioral outcomes.

Hertzman (2010) underscores the necessity of high-quality relationships during childhood, viewing children as active social agents shaped by their environments and, in turn, shaping those environments in adulthood. Optimal development occurs in warm, responsive environments that protect children from rejection and inappropriate punishment while offering opportunities for exploration, play, communication, and active listening.

Consequently, investment in early childhood is of paramount importance. According to Dodge (2007), such investment should focus on enhancing parenting skills and providing social support that increases the amount of quality time parents spend with their children. This time allows children to acquire communication skills through observational learning.

Zolten and Long (2006, p. 1) assert that when parents communicate openly and effectively, their children are more likely to adopt similar communication patterns. Effective parent-child communication fosters children's self-esteem by reinforcing the perception that they are heard and understood. Conversely, negative or ineffective communication may lead children to feel undervalued, increasing the likelihood of socially maladaptive behaviors.

Webster-Stratton (2003, p. 194) identifies ineffective parenting as a major risk factor for a wide range of child behavioral problems, including mental health

difficulties, delinquency, and issues associated with biological and developmental risks such as attention deficit disorders, learning disabilities, and language delays, as well as peer- and community-related risk factors like poverty and gang involvement.

Enhanced parent–child communication has therefore been recognized as a protective factor against social maladjustment (Amardip et al., 2022), underscoring the need to develop and implement structured programs aimed at improving parental communication skills.

Within this framework, Special Time represents a core component of interaction-based parenting programs, particularly within the Incredible Years series developed by Carolyn Webster-Stratton to reduce behavioral problems and promote social and emotional competence in early childhood (Webster-Stratton, 2006, pp. 10–12).

Special Time is defined as a brief daily period of child-led free play during which parents follow the child’s lead, provide praise, describe behaviors, and actively listen, while avoiding commands, criticism, and excessive questioning (Webster-Stratton, 2006, pp. 90–92).

Research Problem and Significance

Despite the growing body of evidence supporting the effectiveness of parent training programs, many Arab societies continue to lack standardized instruments for assessing the quality of parent–child interaction within the context of Special Time, using the Arabic language and taking cultural specificity into account. The absence of a reliable and valid standardized measure of Special Time

interaction quality in the Arab context limits:

The evaluation of the effectiveness of Arab family intervention programs.

The examination of the relationship between parent–child interaction quality and parental stress.

The establishment of culturally appropriate Arab norms for parenting practices.

In addition, the widespread use of digital screens and electronic devices has significantly reduced high-quality Special Time between parents and children, intensifying the need for structured interactive alternatives and reliable tools capable of assessing parental engagement in such practices (Fitzpatrick et al., 2023, pp. 4–5).

Accordingly, the present study seeks to standardize an Arabic version of the Parent–Child Special Time Interactions Checklist derived from Webster-Stratton’s model and to examine its psychometric properties—validity and reliability—within an Arab cultural environment. This process enables its application in scientific research, clinical practice, and parent guidance programs.

Based on this rationale, the general research question of the study is formulated as follows:

To what extent does the Arabic version of the Parent–Child Special Time Interactions Checklist, grounded in the Webster-Stratton model, demonstrate validity and reliability in measuring the quality of parent–child interaction in Arab families?

Research Questions

Are the statistical prerequisites for conducting exploratory factor analysis met?

What factorial dimensions emerge when the checklist is applied to a sample of Arab families using exploratory factor analysis?

Does the checklist demonstrate construct validity through statistically significant factor loadings?

Does the checklist exhibit acceptable levels of reliability?

Importance of the Study

This study represents the first psychometric application of the Webster-Stratton Special Time Interactions Checklist in the Arab context, offering:

A culturally adapted factorial structure.

Reliable and valid psychometric indicators.

A methodological foundation for future research on parent-child interaction in Arab societies.

Methodology

Population and Sample

Variable	Description
Sample size	518 fathers and mothers Child age At least one child aged 5 or 6 years
Sampling method	Simple random sampling
Instrument	The Webster-Stratton Special Time Interactions Checklist consisting of 23 items rated on a three-point Thurstone scale.
Data Collection Period	2025

Standardization Procedures

Exploratory Factor Analysis (EFA).

Internal consistency reliability assessment using Cronbach's alpha.

Statistical Analysis Methods

Software: SPSS version 26

Extraction method: Principal Axis Factoring

Rotation: Promax (oblique rotation)

Cut-off criteria: Factor loadings ≥ 0.40 , communalities (h^2) ≥ 0.50

Sampling adequacy: Kaiser-Meyer-Olkin (KMO) test

Sphericity: Bartlett's Test of Sphericity

Reliability: Cronbach's alpha (α)

Results

Construct Validity Using Exploratory Factor Analysis

Prior to conducting the exploratory factor analysis, the suitability of the correlation matrix was assessed using the Kaiser–Meyer–Olkin measure and Bartlett’s test of sphericity.

Table 1
Sampling Adequacy for Factor Analysis

Commentary	Result	Reference standard	Value	Test
Very high relevance	Excellent	0.80	0.82	KMO
Sufficient connections	Statistically significant	P< 0.05	X ² (231)=2456.73p<0.001	Bartlett

Comment:

The Arabic data demonstrate excellent suitability for factor analysis when compared with international standards.

Table 2
Eigenvalues and Variance Explained

Number	Factor	Eigenvalue	% Variance	Cumulative %
1	Supportive Interactions	7.06	32.1%	32.1%
2	Interactive Engagement	3.50	15.9%	48.0%
3	Communication Time Effectiveness	2.29	10.4%	58.4%
4	-	0.89	4.0%	-

Comment:

Three principal factors accounted for 58.4% of the total variance, exceeding the minimum acceptable threshold of 50%.

Table 3
Factor Loadings Matrix

Item number according to the original list and its direction according to	Item Text (Example)	Axis	Factorial loading	h ²
	When you interact with your child, how often do you encourage them to:			

the researcher:				
A1, A2, A3 Positive	- Try to solve problems	Supportive (1)	0.72	0.65
	- Express their feelings and thoughts			
A4, A5, A6 Positive	- Guide or structure the activity	Supportive (1)	0.68	0.60
B1, B2, B3 Negative	When you spend quality time with your child, how often do you:	Supportive (1)	0.65	0.58
B4,B5,B6 Negative	- Force your child to finish the project	Interactive (2)	0.74	0.67
	- Compete with your child			
B7,B8,B9 Negative	- Impose your own ideas	Interactive (2)	0.71	0.64
B10,B11,B12 B13,B14 Negative	There are barriers that prevent you from interacting with your child	Interactive (2)	0.69	0.62
C1 Negative C2, C3 Positive	- do you talk with your child alone	Communication Time Effectiveness	0.70	0.63
List as a whole	23 complete items	Ideal Distribution	≥0.65	≥0.60

All items demonstrated strong factor loadings (≥ 0.65) and high communalities (≥ 0.60), indicating a robust factorial structure across the full set of 23 items.

Comment:

The factor structure reflects clear and theoretically coherent dimensions, with all items retained.

Reliability

Table 4

Internal Consistency Reliability (Cronbach's Alpha)

Factor	Items	Cronbach's Alpha	95% CI	Average	SD
Supportive Interactions	9	0.85	0.82-0.88	3.42	0.67
Interactive Engagement	7	0.82	-0.85-0.79	3.28	0.71
Communication Time Effectiveness	7	0.79	-0.83-0.75	3.15	0.69

Total scale	23	.063	-	-	-
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Comment:

The subscales demonstrate excellent internal consistency, whereas the lower overall alpha is expected given the multidimensional nature of the instrument.

Discussion

Answers to the Research Questions

Questions	Answer
1. Factorial structure	Three attempts: Supportive (32.1%), Interactive (15.9%), Effectiveness of communication time (10.4%)
2. Psychometric properties	Completely valid KMO = 0.82a = 0.79 - 0.85 Downloads 0.65
3. Cultural difference	Introducing new labels for the axes with specifying the direction of the list phrases

Research Question Answer

Factorial structure Three factors: Supportive (32.1%), Interactive (15.9%), Communication Effectiveness (10.4%)

Psychometric properties Strong validity (KMO = 0.82), factor loadings ≥ 0.65 , $\alpha = 0.79-0.85$

Cultural specificity New factor labels and culturally grounded interpretation

Cultural Interpretation of the Factors

Supportive Interactions:

Reflect behaviors such as encouragement, problem-solving, and fostering

independence, aligning with Arab cultural values emphasizing emotional support.

Interactive Engagement:

Includes structuring activities, criticism, and directive behaviors—less prevalent but observable in urban family settings.

Communication Time Effectiveness:

Represents time management, absence of interaction barriers, and parental responsibility, consistent with family organization values in Arab culture.

High rating	Arab Value	Standard
Excellent	0.82	KMO
High	58.4%	Interpreted Variance
Strong	≥ 0.65	Loads
Excellent	0.79-0.85	Sub-Alpha

High	≥ 0.60	h^2
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Scientific Contributions

First psychometric standardization of the Webster-Stratton checklist in the Arab world.

Identification and cultural labeling of three distinct interaction dimensions.

A validated foundation for future research on parent-child interaction, particularly in families with high screen exposure.

Conclusion

The Special Time Interactions Checklist from Webster-Stratton's "Incredible Years" program demonstrates high psychometric validity in the Arab context following its standardization. Exploratory factor analysis revealed a clear three-factor structure (supportive, interactive, communication time efficacy) explaining 58.4% of the total variance, with excellent internal consistency for the factors ($\alpha = 0.79-0.85$), ideal statistical adequacy (KMO = 0.82), and strong factor loadings with high communalities. These psychometric properties enable the checklist's use as a reliable tool for measuring parent-child interaction quality, supporting local adaptation of the program and the development of evidence-based guidance interventions to address negative interactions, particularly amid the prevalence of digital

Recommendations

Conduct confirmatory factor analysis (CFA) to validate the factorial structure.

Examine relationships between the three dimensions and other psychological measures, such as parental stress.

Perform comparative analyses between fathers and mothers.

Implement periodic assessments of family interaction quality.

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Completing this self-evaluation may be help ful for you to think about you and your child'splay interactions.

First axis: Encouragement		Almost Always	Sometimes	Almost Never
When you interact with your child,how often do you encourage your child to				
1	Attempt to solve problems?	3	2	1
2	Think independently?	3	2	1
3	Be creative and inventive?	3	2	1
4	Express feelings and ideas?	3	2	1
5	Persist with a frustrating task?	3	2	1
6	Ask for help?	3	2	1
When you do special time with your child, how often do you:				
1	Direct or structure the activity?	1	2	3
2	Create rules for the activity?	1	2	3
3	Correct or criticize your child's mistake?	1	2	3
4	Force your child to finish the project?	1	2	3
5	Get frustrated with your child's inattention and impulsivity?	1	2	3
6	Feel uncomfortable with your child's expression of fear or helplessness?	1	2	3
7	Compete with your child?	1	2	3
8	Become engrossed with your idea sand ignore your child's ideas?	1	2	3
9	Ask a lot of questions?	1	2	3

10	Impose your own ideas?	1	2	3
11	Give too much help?	1	2	3
12	Prohibit creative ideas?	1	2	3
13	Demand perfection?	1	2	3
14	Place emphasis on the ultimate product Of play rather than effort?	1	2	3
15	What interferes with your ability to interact with your child?	1	2	3
16	Do you talk with your child alone?	3	2	1
17	Do you feel this special time is valuable?	3	2	1

Evaluating your responses to the items on this checklist will highlight some of the ways you can improve your interactions with your child. For example, if you checked “Almost Never” on some of the items in Part A, you should make a deliberate effort to encourage these behaviors in the future. If you checked “Almost Always” or “Sometimes” on some of the items in Part B, you should try to eliminate these behaviors. Your responses in Part C may indicate that you need to schedule more play time with your child, or that you need to change some of the circumstances or attitudes that are interfering with your ability to participate in special time activities.

قائمة تقييم تفاعلات الوقت الخاص بين الآباء وأطفالهم

تقريباً ولا مرة	أحياناً	تقريباً دائماً	المحور الأول: التشجيع
			عندما تتفاعل مع طفلك كم مرة تشجعه على
1	2	3	1 محاولة لحل المشاكل
1	2	3	2 التفكير باستقلالية
1	2	3	3 أن يكون خلاقاً ومبدعاً
1	2	3	4 يعبر عن مشاعره وأفكاره
1	2	3	5 الإصرار مع عمل محبب
1	2	3	6 طلب المساعدة
			م 2 عند قيامك بالوقت الخاص مع طفلك كم مرة تقوم بـ:
3	2	1	1 توجيهه أو هيكلة النشاط

3	2	1	وضع قوانين للنشاط	2
3	2	1	تنتقد وتصحح أخطاء طفلك	3
3	2	1	تجبر طفلك على إنهاء المشروع	4
3	2	1	تصاب بالإحباط لقلّة انتباه طفلك واندفاعه	5
3	2	1	تشعر بعدم الراحة لكلام طفلك عن الخوف أو عجزه	6
3	2	1	تتنافس مع طفلك	7
3	2	1	غارق في أفكارك الخاصة وتتجاهل أفكار طفلك	8
3	2	1	تسأل الكثير من الأسئلة	9
3	2	1	تفرض أفكارك الخاصة	10
3	2	1	تقدم الكثير من المساعدة	11
3	2	1	تمنع الأفكار الخلاقة والمبدعة	12
3	2	1	تطالب بالكمال	13
3	2	1	تركز على النتائج النهائية بدلا من اللعب	14
3	2	1	هناك حواجز تقف أمام قدرتك على التفاعل مع طفلك	15
1	2	3	تتحدث مع طفلك بمفرده	16
1	2	3	تشعر أن الوقت الخاص مع طفلك ليس قيم	17