JAHC JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP

A Preliminary Study of the Quality of Interactions Between Adolescent Fathers/Young Fathers and Their Babies at 3 Months

Elena Ierardi[1], Alessandro Albizzati[1], Emanuela Felici[1], Serena Chisari[1], Mauro Walder[1], Margherita Moioli[1]*

1. *Child Neuropsychiatry Unit, ASST Santi Paolo e Carlo, Milan*

*Corresponding author: margherita.moioli@asst-santipaolocarlo.it

KeyWords:
fatherhood in adolescence, young father-infant interaction, parental risk factors

Abstract

Background: *The literature on adolescent fathers and young fathers is scarce. The few studies have outlined that young fathers are characterized by numerous risk factors that can have a negative effect on the relationship with the child, the father's well-being, and the child's social-emotional and cognitive development.*

Method: *The objective of this exploratory study is to evaluate and outline in a sample of 48 father-adolescent and young father-child dyads the profile of the child's interaction styles at 3 months of life. Father-child interactions were videotaped and encoded using the Neuropsychomotor Video Analysis of Adult and Child Interaction-NVA® to assess father and child interaction styles.*

Results: *The results showed that young fathers scored high in intrusive and aggressive style and low score in sensitivity, placing them in a high-risk range. Children have high scores in the exclusion-avoidant, passive, and controlling style and low scores in the participatory style, placing them in the moderate and high-risk range.*

Conclusions: *The results indicate that the quality of adolescent father and young father-child interactions is characterized by negative behaviors and low responsiveness. These data may be useful at a clinical level to implement early interventions to support the father-child relationship.*

Introduction

Fatherhood during adolescence and at a young age involves numerous psychological and social changes that can negatively affect the well-being of the young father [1]; in fact, there is often a conflict between the role of parent and that of adolescent/young adult, with a consequent inability to reconcile the developmental tasks typical of adolescence with those of fatherhood [2,3]. While research on teenage pregnancy is extensive, studies that have focused on fatherhood at a young age are few and not recent [4]. Despite this limitation, the few studies carried out have provided important socio/demographic information on adolescent fathers, highlighting the presence of numerous risk factors and multiple problems in a similar way to adolescent mothers and young mothers [5-7]. In particular, the majority of young fathers come from disadvantaged socio-economic backgrounds, have low levels of education with frequent school dropouts and less chance of finding a job and remaining unemployed [8]. In addition, early sexual intercourse and adverse childhood experiences lived within one's own family are frequent.

All these risk factors can lead young fathers to experience great psychological, emotional and social difficulties: they often present delinquent behaviors, especially aggressive ones accompanied by alcohol and drug abuse, psychopathological problems [9-12]. Stouthamer-Loeber and Wei [13] found that boys who became fathers in adolescence were twice as likely to engage in delinquent behavior, to live in neighborhoods with high degradation and to drop out of school; they also had a risk in twice as many cases of developing depressive symptoms, high levels of anxiety compared to adult fathers [14-15].

The scientific literature also shows that young fathers' low involvement in their children's lives can damage their self-esteem and self-image, increasing stress levels [10,16]. Fatherhood at a young age can also be a risk factor for child development and for problems in the father-child relationship [17].

Moreover, a good quality of parent-child play interactions in the first years of life has a positive effect on the social-emotional and cognitive development of children [18]. However, the majority of research has focused on mother-child play interactions, but the potential positive role of early involvement of fathers in children's lives is increasingly recognized [19,20]. To our knowledge, only two studies have evaluated the quality of young father-child interactions in the first years of life. The first study found that young fathers were less sensitive and less engaged in social play with their children than young mothers [21]; The second study we carried out in previous research [7] showed that young fathers have high scores in intrusive behaviors and low scores in sensitivity while their children have passive and complacent-compulsive behaviors. In addition, young fathers in interactions with their children adopt risky behaviors similar to their partners (young mothers) and have a lower capacity for mind-mindedness, i.e. thinking, talking and interacting with their children considering them en-

RESEARCH ARTICLE

Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

dowed with mental states and emotions.
The objective of the exploratory study was to delineate the quality of early interactions between adolescent fathers and young fathers and their children in a larger sample of young fathers than in previous research and with a coding tool (Neuropsychomotor Video Analysis of Adult and Child Interaction-NVA®) [22] not only aimed at identifying emotions and behaviors but also psychomotor aspects such as posture, gestures and use of games in the interactive space. The sample of fathers was selected as partners of adolescent mothers and young mothers, therefore the age of the fathers is higher than that of young mothers but always in a high-risk sample. Furthermore, for this reason, it was decided to identify at an exploratory level any differences related to the age group of young fathers 16-21 years vs. 22-30 years.

Materials And Methods

Participants

The sample consists of 48 adolescent fathers and young fathers with their children recruited at the SAGA Service (Service for Accompaniment to Parenting in Adolescence) of the ASST Santi Paolo e Carlo in Milan. Inclusion criteria for participation in the study included: being a partner of a mother under the age of 22; parents' ability to speak and understand the Italian language; babies born at term without medical complications. Exclusion criteria included twin birth and prematurity.
The fathers ranged in age from 16 to 30 years (M=21.79; SD = 3.40), had an education level between 8 and 13 years old and 60% had a job or were studying. 80% of fathers had a low socio-economic level and 20% had an average level.
72.2% of the fathers are Italian and the rest were Europeans or Latin Americans who knew the Italian language and integrated into the Italian cultural context. In 89.50% pregnancy was not desired. The children were between 2 and 5 months old (M=3.12; SD=.74) and 53.2% were male. The study protocol was approved by the ethics committee of the ASST Santi Paolo e Carlo Hospital in Milan. All subjects gave their informed consent.

Procedure

At the age of 3 months, parent-baby dyads were videotaped for 5 minutes in a hospital outpatient clinic where there was a soft mattress for the father and baby to sit or lie down on and some toys suitable for the child's age. Fathers were asked to interact with the child as they normally did at home. Dyadic interactions were coded with NVA® [22] to assess the interaction style and behaviors of the parents and the child.

Tools

NVA® is a coding system, validated on a normative sample [22] and applied in clinical samples [23], which evaluates adult-child interactions in the three years of the first child's life, considering the importance of the bodily and motor aspects that adults and children use in the interaction of free play. The behaviors of the adult and the child are analyzed for the duration of the interaction in order to assess the occurrence of specific behaviors and are coded separately by the observer himself.
As indicated in Table 1, the adult categories are: Violent, Intrusive, Controlling, Sensitive, Cooperative, Passive, and Expulsive. The child categories are: Aggressive, Reactive, Controlling, Participatory, Collaborative, Passive, and Excluding-Avoidant (see Table 1).

Table 1. *Child and adult categories.*

Child	Aggressive	The child has verbal and physical aggressive behaviors explicitly; for example: screaming, hitting, kicking, biting
	Responsive	The child's responses to the adult's actions in a rapid and intense way and with an excess of energy in gestural, vocal and/or physical behaviors; such behaviours are aimed at interrupting or modifying the activity in progress
	Parent	The child exercises control over the adult and is the predominant partner of the interaction; she does not want to give up the relationship with the adult but does not trust him completely
	Participatory	The child actively tries to play with the adult, the exploration is shared and supported by the adult; The activity is engaging and produces pleasure
	Collaborative	The child can interact with the adult, but his actions are mainly in response to the stimulation received; the child tends to please the adult but does not feel real pleasure
	Passive	The child is unable to interact with the adult and does not respond promptly to the adult's initiatives; often absence of gaze, low muscle tone and deflected mood
	Excluding-Avoidant	The child is directly active in rejecting attempts to contact and share with the adult

RESEARCH ARTICLE
JAHC | JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP

Adult	Violent	The adult has verbal and physical behaviors that appear exasperated and aggressive
	Intrusive	The adult pursues the personal goal with behaviors carried out without the child's consent, leading to an annoying and/or avoidance effect that interrupts spontaneous play
	Parent	The adult does not allow you to lose control as indicated in posture, body language, gaze and language; it does not allow the other to interact spontaneously, controlling the interaction
	Sensitive	The adult is aware of and responds adequately to the needs and emotions of the child; is positively involved and shares the same emotions and goals in an empathetic way with the child; The activity produces pleasure
	Collaborative	The adult does not begin to interact but manages to play with the child; The adult mind is not willing to allow itself to derive real pleasure from the interaction
	Passive	The adult does not respond or responds slowly to the child's proposals without pleasure, is partially or totally isolated from the interaction; The gaze, actions, or speech can often be detached and uncoordinated, e.g., speaking without looking at the child
	Expulsive	The adult actively and directly avoids contact and does not respond to the child's attempts to share

In addition, the NVA categories can also be evaluated through a grouping into adult and child macro-categories that make the profile of positive and appropriate behaviors more visible compared to negative and inappropriate ones on two polarities: Approach and Distance. The macro-categories have been described in Table 2.

Table 2. *Macro-categories of child and adult.*

MACRO-CATEGORIES	*Categories*
Baby Close-up	*Aggressive, Responsive, Controlling*
Sensitive Child	*Participatory*
Child Removal	*Collaborative, Passive, Excluding-Avoidant*
Adult Close-up	*Violent, Intrusive, Controlling*
Sensitive Adult	*Sensitive*
Adult Removal	*Collaborative, Passive, Expulsive*

NVA® focuses on the following aspects of interaction defined as "gaze", "facial expressions and facial expression", "hand and arm gestures", "posture and use of the body", "use of voice", "use of words" and "objects and games". For each of the 7 areas there is a list of questions to which the observer answers by selecting one or more options. The options are not mutually exclusive. NVA calculates the scores for each category by proportioning the number of answers given to the possible total number of answers for each category. On the basis of the scores obtained, it is possible to define the type of prevalent behavior of both partners and assign adult and child to specific categories.

Cut-offs are also defined to establish moderate-risk and high-risk interaction styles for each adult and child category. The cut-offs were constructed by calculating the means and standard deviations on a large sample of non-risk dyads in our previous study [22]. A transformation into z-scores and then into t-scores was then carried out.

The first cut-off indicating the moderate risk band was set at one standard deviation from the mean (T=≥60≤70), the second indicating the high risk band was set at two standard deviations from the mean (T>70). Three ranges were therefore defined: non-risk, moderate risk (one standard deviation from the mean) and high risk (two standard deviations from the mean).

In this study we also considered a specific area of interaction, "hand and arm gestures" to better identify the psychomotor component of the quality of the interaction. Reliability among observers was calculated on 20% of dyad observations through the intraclass correlation coefficient and resulted in ICC = 0.81 for paternal behavior and ICC = 0.79 for infant behavior.

Statistical Analysis

The SPSS 29 statistical analysis package was used for all analyses. Preliminary analyses with t-tests showed no significant differences in the gender of the child with regard to the interaction styles of the fathers and the child. Descriptive statistics on father-child interaction styles were developed, so as to outline the quality of interaction and identify the risk range of the different interaction styles. T-test analyses were then carried out to identify differences between the group of fathers aged 16-21 and the group of fathers aged 22-30 years, in order to identify at an exploratory level behaviors more cha-

JAHC JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP
RESEARCH ARTICLE

Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

racteristic of the partners of young mothers based on their age.

Results

The results showed that young fathers scored high in intrusive, controlling and violent style and scored low in sensitivity. In particular, outlining the cut-offs, it can be seen that the scores for the intrusive and aggressive style far exceed the high-risk cut-off, while the scores for the sensitive style are at the lower limit of the high-risk cut-off. The scores for the controlling category, although not in the moderate risk range, are just below the lower limit of the cut-off (see figure 1). At the macro-category level, we therefore have high scores in the category of approaching fathers.

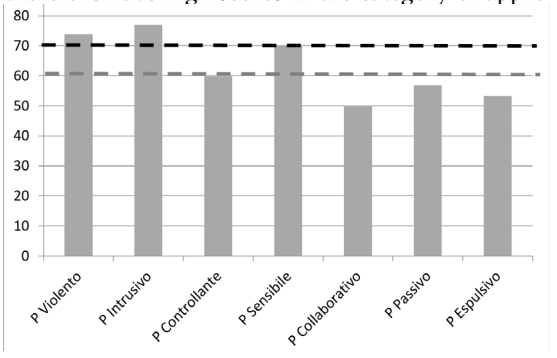


Figure 1. *Dad category scores against risk cut-offs.*
Moderate risk *high risk*

Examining the area of interaction related to hand and arm gestures, it emerged that young fathers in these behaviors fall within the very high risk for aggression and intrusiveness and for moderate risk in control and low sensitivity.

Children have high scores in the exclusion-avoidant, passive, and controlling style and low scores in the participatory style. In particular, outlining the cut-offs, it can be seen that the scores relating to the exclusionary-avoidant style are in the high risk range. The scores for the controlling and participatory styles are in the moderate risk cut-off while the scores for the passive style, although not in the moderate risk range, are just below the lower limit of the cut-off (see Figure 2).

At the macro-category level, we therefore have high scores in the category of child removal.

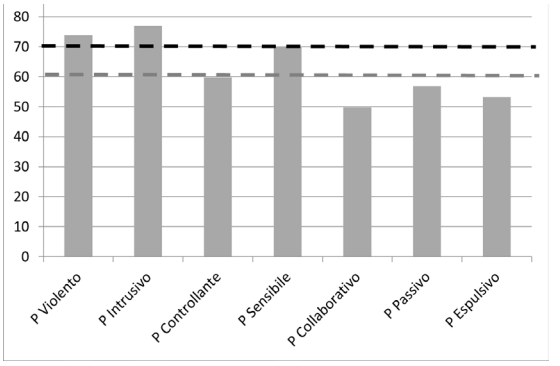


Figure 2. *Scores of the child's categories against risk cut-offs.*
Moderate risk *high risk*

T-test analyses to identify differences between the two groups dad (16-21 years) and (22-30 years) found significant results (see tables 3 and 4). The younger fathers group (16-21 years old) have higher scores in the Cooperative category than the fathers group (22-30 years old) who have higher scores in the Violent category. The same data also emerge at the level of risk. In addition, in the area of hand and arm gesture interaction, fathers in the 22-30 age group have higher scores in the Violent category (t=-2.85; p=. 011) and lower scores in the Sensitive category (t=2.21; p=. 032) also in terms of risk compared to fathers 16-21 years old.

Finally, children of fathers aged 22-30 have higher scores in the Exclusionary category than children with fathers aged 16-21.

Table 3. *Differences between the group of fathers aged 16-21 and fathers aged 22-30 with respect to the individual categories of child and father.*

	Fathers (16-21 years) (N=25)		Fathers (22-30 years) (N=23)				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
Aggressive	.04	.20	.18	.62	-1.08	.28	
Responsive	8.84	7.86	9.19	6.37	-.16	.87	
Parent	14.28	8.73	15.66	6.84	-.60	.54	
Participatory	30.32	18.77	25.75	17.08	.88	.38	
Collaborative	17.59	7.60	14.23	5.14	1.77	.08	
Passive	22.52	10.16	23.76	13.32	-.36	.71	
Excluding-Avoidant	6.33	4.64	11.08	8.06	-2.49	.019*	.73
Violent	.16	.62	.93	1.37	-2.47	.019*	.74
Intrusive	20.76	12.93	25.84	10.27	-1.49	.14	

RESEARCH ARTICLE
JAHC | JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP

Parent	13.66	5.13	15.84	6.08	-1.34	.18	
Sensitive	39.24	16.75	31.68	15.45	1.58	.12	
Collaborative	13.60	6.61	9.52	5.21	2.36	.021*	.69
Passive	10.51	9.24	13.89	11.96	-1.10	.27	
Expulsive	2.03	3.03	2.09	2.35	-.07	.93	

Notes: mean (M), standard deviation (SD), Student's t-test (t), significance level (p), and effect size (d). * p < .05; ** p < .01

Table 4. *Differences between the group of fathers aged 16-21 and fathers aged 22-30 compared to the categories considering the risk cut-off values.*

	Fathers (16-21 years) (N=25)		Fathers (22-30 years) (N=23)				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
Aggressive	48.68	2.79	49.89	5.87	-.92	.36	
Responsive	53.22	9.53	53.67	7.77	-.17	.86	
Parent	59.56	12.13	61.51	9.90	-.69	.53	
Participatory	65.51	9.90	68.13	9.12	-.95	.34	
Collaborative	53.81	8.28	50.15	5.62	1.77	.078	
Passive	59.77	8.57	60.81	11.29	-.35	.72	
Excluding-Avoidant	81.98	27.28	110.14	47.40	-2.49	.018*	.73
Violent	55.92	28.54	93.55	67.73	-2.47	.020*	.72
Intrusive	73.41	19.25	80.82	15.61	-1.45	.15	
Parent	60.87	17.62	58.23	7.97	-1.27	.20	
Sensitive	74.21	14.57	81.44	8.16	-1.59	.11	
Collaborative	55.74	15.89	52.54	12.90	2.36	.022*	.22
Passive	51.82	12.97	55.38	12.72	-1.09	.28	
Expulsive	46.39	.00	46.32	.35	-.12	.90	

Notes: mean (*M*), standard deviation (*SD*), Student's t-test (*t*), significance level (*p*), and effect size (*d*). * *p* < .05; ** *p* < .01

Discussion

Our study is one of the few that examined the quality of the interaction styles of young fathers and their children. Although at a preliminary and qualitative level, the results found show a high-risk young-father-child dyad interaction profile. In particular, adolescent and young fathers show low sensitivity and frequent intrusive and dysfunctional behaviors in interactions with their children at 3 months, highlighting high-risk problematic behaviors. The low sensitivity and intrusive style that characterizes young fathers are in line with the results in the literature showing intrusive and insensitive behaviors [7] and are similar to the low sensitivity and intrusiveness/control that emerged in the literature for adolescent mothers and young mothers [6,24]. An important element that is highlighted is the high frequency, being in the high-risk range, of behaviors that fall within the violent style. This dysfunctional style is an indicator of an inadequacy characterized by angry behaviors, forcing to carry out the activity imposed by the adult, putting the child in danger or frightening him and having rough and aggressive physical contact. In particular, the area relating to hand and arm gestures highlights a style characterized by body manipulation, difficulty in respecting the child's turns and times in the play activity, activities that overstimulate and repeated and frequent changes of play objects and severe and devaluing comments. While children have few participatory behaviors and are characterized by more exclusionary-avoidant, passive and controlling behaviors in interactions with fathers, placing themselves in a range of moderate to high risk. The behavior of children to be most at risk is that related to the exclusionary-avoidant style which indicates a child who at 3 months voluntarily tends to exclude the adult from his play and interaction: for example, the gaze is never turned to the adult and prefers objects to the father. This result adds further data on the child's interactive style with young fathers which, unlike the previous study in which passive and complacent behaviors had emerged [7], outlines in the child the frequent implementation on the one hand of behaviors aimed at actively excluding the adult and on the other hand also at controlling and self-regulating.

It therefore seems that the dyadic interaction of young fathers with their children is characterized by behaviors with high intrusiveness, reduced sen-

JAHC JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP
RESEARCH ARTICLE

Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

sitivity and difficulty in the regulation of negative emotions that could lead to inhibition of behavior and slowing of movement in their children with a possible risk, in extreme cases, of freezing. Children could enact this reaction of immobilization and self-regulation as a response/defense to the excessively intrusive and aggressive behavior of their fathers. It is interesting in future studies to analyze whether these modalities remain stable and cause developmental risks for the child, as known in the literature aggressive behaviors are risk factors that if perpetuated and not modified could result in physical abuse of the child during development.

At the exploratory level, we also evaluated whether fathers, partners of young mothers, adopted different modes of interaction in the face of the division into age group. The results of the preliminary study show that fathers in the 22-30 age group have higher scores in the Violent category, both general and related to the area of interaction, hand and arm gestures, thus showing themselves to be more inadequate and with less sensitivity towards their children than fathers aged 16-21 years. In parallel, children with fathers aged 22-30 years have higher scores in the Excluding-Avoidant category than children with fathers aged 16-21 years. Given the small number of the sample, it will be interesting in future studies to investigate, in a larger group of fathers, partners of young mothers, any age-related differences and what factors could determine or be associated with paternal aggressive behavior.

The result relative to negative behaviors and interaction styles of both fathers and children, albeit in a preliminary study, it could be important to provide support to young fathers and their children, implementing intervention programs aimed at supporting parenting at a young age that focus on reducing inappropriate behaviors and promoting greater responsiveness, in order also to avoid a risk of a possible intergenerational transmission of inappropriate and dysfunctional behaviors and to prevent the risk of maltreatment of the child [24, 25].

Our study has limitations. Firstly, the sample size is not large and this is mainly due to a difficulty in reaching a particular population such as adolescent or young parents. Second, other variables that may have an effect on paternal parenting were not evaluated, such as psychopathological problems, social or delinquent environment in which the family unit lives. Finally, the evaluation of parent-child interaction took place only in the first months of the children's lives; Further longitudinal research may prove useful in examining the trend of interactional quality and assessing the effect on the social, emotional and cognitive development of children.

References

1. *Savio Beers, L. A., & Hollo, R. E.* (2009). *Approaching the adolescent-headed family: A review of teen parenting. Current problems in pediatric and adolescent health care,* 39(9), 216–233.
2. *Lowdermilk, D.L., Perry, S.E. & Cashion, K.* (2014) *Maternity Nursing. Wiley-Blackwell Publishing, New Jersey.*
3. *Uengwongsapat, C., Kantaruksa, K., Klunklin, A., & Sansiriphun, N.* (2018). *Growing into teen fatherhood: a grounded theory study. International Nursing Review,* 65(2), 244-253.
4. *Weber, J. B.* (2020). *Being there (or not): Teen dads, gendered age, and negotiating the absent-father discourse. Men & Masculinities,* 23(1), 42-64.
5. *Kiselica, M. S., & Kiselica, A. M.* (2014). *The complicated worlds of adolescent fathers: Implications for clinical practice, public policy, and research. Psychology of Men & Masculinity,* 15(3), 260–274.
6. *Ierardi, E., Albizzati, A., Moioli, M., & Riva Crugnola, C.* (2022). *Psychopathological and Psychosocial Risk Profile, Styles of Interaction and Mentalization of Adolescent and Young Mother–Infant Dyads. International Journal of Environmental Research and Public Health,* 19(8), 4737.
7. *Ierardi, E., Fantoni, S., Moioli, M., Albizzati, A., & Riva Crugnola, C.* (2023). *Mind-mindedness and styles of interaction of young fathers with their infants at three months: a pilot study. BMC Psychology,* 11(1), 430.
8. *Tan, L. H., & Quinlivan, J. A.* (2006). *Domestic violence, single parenthood, and fathers in the setting of teenage pregnancy. Journal of Adolescent Health,* 38(3), 201–207.
9. *Bamishigbin, O. N., Dunkel Schetter, C., & Stanton, A. L.* (2019). *The antecedents and consequences of adolescent fatherhood: A systematic review. Social Science & Medicine,* 232, 106–119. *https://doi.org/*10.1016/*j.socscimed.*2019.04.031
10. *Bunting, L., & McAuley, C.* (2004). *Teenage pregnancy and motherhood: The contribution of support. Child & Family Social Work,* 9(2), 207–215.
11. *Guagliardo, M.F., Huang, Z., & D'Angelo, L.J.* (1999). *Fathering pregnancies: marking health-risk behaviours in urban adolescents. Journal of Adolescent Health,* 24:10–15
12. *Recto, P., & Lesser, J.* (2021). *"Fathers need help too": Adolescent fathers and depression. Issues in Mental Health Nursing,* 42(5), 515-518.
13. *Stouthamer-Loeber, M. & Wei, E.* (1998) *The precursors of young fatherhood and its effect on delinquency of teenage males. Journal of Adolescent Health,* 22, 56–65.
14. *Lee, Y., Fagan, J., & Chen, W. Y.* (2012). *Do late adolescent fathers have more depressive symptoms than older*

RESEARCH ARTICLE
JAHC | JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP

fathers?. Journal Of Youth & Adolescence, 41(10), 1366-1381.
15. *Quinlivan, J. A., & Condon, J.* (2005). *Anxiety and depression in fathers in teenage pregnancy. Australian & New Zealand Journal of Psychiatry*, 39(10), 915-920.
16. *Caldwell, C.H. & Antonucci, T.C.* (1997). *Childbearing adolescence: mental health risks and opportunities. In: Health Risks and Developmental Transitions During Adolescence (eds J. Schulenberg, J. Maggs & K. Hurrelmann), pp.* 220–245. *Cambridge University Press, Cambridge.*
17. *Howard, K. S., Lefever, J. E., Borkowski, J. G., & Whitman, T. L.* (2006). *Fathers' influence in the lives of children with adolescent mothers. Journal of Family Psychology*, 20(3), 468–476.
18. *Ramchandani, P. G., Domoney, J., Sethna, V., Psychogiou, L., Vlachos, H., & Murray, L.* (2013). *Do early father–infant interactions predict the onset of externalising behaviours in young children? Findings from a longitudinal cohort study. Journal of Child Psychology & Psychiatry*, 54(1), 56-64.
19. *Amodia-Bidakowska, A., Laverty, C., & Ramchandani, P. G.* (2020). *Father-child play: A systematic review of its frequency, characteristics and potential impact on children's development. Developmental Review*, 57, 100924.
20. *Grossman, K. E., Grossman, K., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmerman, P.* (2002). *The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as pivotal variable in a 16-year longitudinal study. Social Development*, 11, 307–331
21. *McGovern, M. A.* (1990). *Sensitivity and reciprocity in the play of adolescent mothers and young fathers with their infants. Family Relations*, 39(4), 427–431. *https://doi.org/*10.2307/585223
22. *Moioli, M., Crugnola, C. R., Ierardi, E., Gazzotti, S., Walder, M., Caiati, L., ... & Albizzati, A.* (2014). *A new coding system: The Neuropsychomotor Video Analysis of parent and child interaction (NVA). European Psychomotricity Journal*, 6.
23. *Moioli, M., Riva Crugnola, C., Albizzati, A., Bottini, M., Caiati, L., Chisari, S., ... & Ierardi, E.* (2022). *How maternal traumatic childhood experiences affect adolescent and young mother–infant interaction at 3 months. Early Child Development & Care*, 192(12), 1921-1930.
24. *Riva Crugnola, C., Ierardi, E., Albizzati, A., & Downing, G.* (2016). *Effectiveness of an attachment-based intervention program in promoting emotion regulation and attachment in adolescent mothers and their infants: a pilot study. Frontiers in Psychology*, 7.
25. *Riva Crugnola, C., Ierardi, E., Peruta, V., Moioli, M., & Albizzati, A.* (2021). *Video-feedback attachment based intervention aimed at adolescent and young mothers: effectiveness on infant-mother interaction and maternal mind-mindedness. Early Child Development & Care*, 191(3), 475–489.

JAHC JOURNAL OF ADVANCED HEALTH CARE
OFFICIAL JOURNAL OF TSRM PSTRP
RESEARCH ARTICLE

Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).