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ORIGINAL PAPER

Family Functioning, Parental Monitoring and Adolescent Familiar Responsibility in Middle and Late Adolescence

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Abstract There is a lack of systematic empirical evidence for a link between parental behavior and family functioning; although there have been studies showing that both family functioning and parenting practices, specifically parental monitoring, influence children's wellbeing, their joint impact on developmental outcomes has not yet been investigated. In the research reported here we address this gap. The relationships among family functioning, parental monitoring and familiar responsibility were examined in a sample of 320 Italian adolescents in two age ranges 14–15 years (n = 186) and 18–19 years (n = 133) in respectively the first and last years of secondary school. A questionnaire containing scales of the studied dimensions was administered in the classroom. A simple mediation model to investigate mediation of parental monitoring and a mediated moderation model to test the indirect conditional effect of adolescents' age were run. Our results showed that parental monitoring amplified the positive impact of healthy family functioning on adolescent familiar responsibility and buffered the negative impact of problematic family functioning. Contrary to predictions, adolescent age did not moderate the strength of the observed relationships. Taken together these results confirm the protective function of parental monitoring during adolescent development and provide support for the concept of familiar responsibility as a relational competence indicating psychosocial maturity and linked to family variables, rather than a simply characteristic of the individual. Implications for research and practice are discussed.

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Introduction

Theoretical models and clinical practice with families have demonstrated the importance of considering the links between dimensions of family functioning and parental behaviors. Family functioning dimensions pertain to emotional bonding, power structures and acquisition of competences and change during the lifespan (Olson et al. 1989), whereas parental behaviors are directly related to parenting practices e.g. routine and rule setting, collecting information about one's children's lives, providing protection and support to one's children (Cowan et al. 1998; Peterson and Hann 1999).

Only a small body of research has focused the relationships between parental behavior and family functioning (Henry et al. 2008; Mupinga et al. 2002). Moreover, although there have been studies showing that both family functioning and parenting practices, and specifically parental monitoring, influence children's wellbeing (e.g. Grotevant 1998), their joint impact on developmental outcomes has not yet been investigated.

Family functioning refers to the complex relational patterns that regulate everyday interactions among family members (Minuchin 1974). The circumplex model of marital and family systems is a well-known model used in research on family functioning. Since its original formulation (Olson et al. 1979) the model has been revised and adjusted (Olson et al. 1989; Olson and Gorall 2003) and supplemented by with a self-report instrument called FACES IV (Olson and Gorall 2006). The three key

concepts of the circumplex model are cohesion, flexibility, and communication. Cohesion is the emotional bonding among family members; flexibility pertains to the style of leadership and manner in which it is expressed, roles, relationship rules and negotiations and communication is the facilitating dimension: good family communication enables family members to modify cohesion and flexibility, essentially it encompasses positive communication skills used in the family system.

Olson and Gorall (2006) claimed that in well-functioning families there is a balance between cohesion and flexibility, whereas in dysfunctional and pathological families there is an imbalance in cohesion and flexibility. Patterns of family functioning can be described in terms of these dimensions. This model has been applied in research on family functioning during adolescence (Baiocco et al. 2013; Barnes and Olson 1985; Henry et al. 2008; Noller 1994), which has established that levels of cohesion and flexibility tend to be low in this developmental phase. These results are consistent with the literature on parent–child relationships during adolescence, when relationships are changing dramatically, the whole family system has to be reorganized and a new family equilibrium has to be established (Everri et al. 2014; Larson et al. 1996).

Previous research (Olson and Gorall 2006) has shown that different levels of flexibility and cohesion are associated with specific parenting styles. For instance, moderate levels of flexibility and cohesion connect with democratic and authoritative parenting styles (Baumrind 1991). Recently Jensen Racz and McMahon (2011) drew attention to a relatively unexplored field, namely how family functioning dimensions influence parenting behaviors, particularly *parental monitoring*. In its original formulation parental monitoring was associated with the concept of parental knowledge—a set of parental behaviors encompassing attention to and tracking of a child's activities, friends and associates and whereabouts (Dishion and McMahon 1998).

A comprehensive series of studies carried out by Kerr and Stattin's research group over more than a decade (Stattin and Kerr 2000; Stattin et al. 2010; Kerr et al. 2012) has provided a more complex definition of parental monitoring. These researchers asserted that parents obtain knowledge about adolescents in three main ways: adolescent disclosure (i.e. spontaneous sharing of information by the adolescent), parental solicitation (i.e. the parent asks for information) and parental control (i.e. parental limit-setting). In contrast to earlier research they posited that parents' primary source of knowledge was adolescent disclosure rather than parental control (Kerr and Stattin 2000; Stattin and Kerr 2000).

A recent review of parental monitoring studies (Jensen Racz and McMahon 2011) highlighted the need for a comprehensive definition of the construct. In particular, building on Stattin and Kerr's theoretical work, Jensen Racz and McMahon suggested the opportunity of considering four components of parental monitoring: *knowledge* (what parents know about their children's lives), *control* (the degree to which parents insist on being informed about their children's behaviors), *solicitation* (how parents seek information about their children), and *youth disclosure* (the child's tendency spontaneously to inform parents about their activities).

Most investigations have focused on the impact of parental monitoring on adolescent outcomes, specifically on adolescent maladjustment. These studies have found that compared with young people who perceive themselves to be subject to more parental monitoring, those who feel they are monitored less are more likely to be involved in various risk behaviors (DiClemente et al. 1994; Jacobson and Crockett 2000) and exhibit internalizing and externalizing symptoms (Frojd et al. 2007; Hamza and Willoughby 2011).

Only few studies have examined the impact of parental monitoring on the development of social competences, autonomy and positive and adaptive behaviors generally. Positive *parental monitoring* strategies, centered on open child-parent communication and adequate control have been linked to the development of adaptive peer relationships (Brown and Bakken 2011; Simpkins and Parke 2002), autonomy and self-esteem (Kurdeck et al. 1995) and coping strategies and resilience (Smorti et al. 2010). These outcomes suggested that extending this line of research to encompass the relationship between adolescent psychosocial adjustment and parental monitoring would be fruitful.

Responsibility-taking is central to the various competences that children consolidate during adolescence. Family is the first and most important context for the development of responsibility-taking (Grotevant and Cooper 1998; Sroufe 1991), specifically the capacity to help and support one's family, what was defined as *familiar responsibility* (Auhagen and Bierhoff 2001; Greenberger 1984; Taylor et al. 1997). Research into how adolescents develop a sense of responsibility in the context of family life may provide important information about the wider development of psychosocial maturity, which allows adolescents to act as autonomous and competent individuals in other social contexts.

Responsibility was found to show a developmental trajectory: older adolescents tended to show higher levels of responsibility than younger adolescents (Arnett 2001; Ryan and Linch 1989). Accordingly, also the capacity to help and support one's family, that is, familiar responsibility, will consolidate in late adolescence.

It should also be noted that family systems and parental monitoring change during development. As children grow

toward adulthood, families go through oscillations in relationships that allow family members to reorganize their usual ways of interacting (Molinari et al. 2010). Similarly, parental monitoring tends to diminish and parent–child relationships become more equal (Arnett 2004; Hair et al. 2008). There has been no previous investigation of the relationships among familiar responsibility, parental monitoring, and family functioning during different stages of adolescence.

The aim of this paper is to analyze the relationship between family functioning and parental monitoring and investigate their impact on adolescents' development of a sense of responsibility towards their families from middle to late adolescence. Accordingly, we elaborated four specific hypotheses: In Hypothesis 1 we posit that the flexibility and cohesion of the family system will be positively associated with parental monitoring (H1a) whereas family systems characterized by rigidity (H1b), disengagement (H1c), enmeshment (H1d) and chaos (H1e) will be negatively associated with parental monitoring. In the second Hypothesis (H2) we predict that parental monitoring will be positively associated with taking responsibility in family contexts when considering the different dimensions of family functioning. The mediating role of parental monitoring was elaborated in the third hypotheses: Parental monitoring will mediate the relationship between family functioning and sense of familiar responsibility, with parental monitoring enhancing the positive effect of flexibility and cohesion on sense of familiar responsibility (H3a), and buffering the negative effect of rigidity (H3b), disengagement (H3c), enmeshment (H3d) and chaos (H3e) on sense of familiar responsibility. We also wanted to take into account the developmental trend of middle and late adolescents, thus we introduced two additional hypotheses: H4a predicts that the relationship between parental monitoring and sense of familiar responsibility will be stronger in middle adolescence than late adolescence. H4b states that parental monitoring will mediate the indirect effect of family functioning on sense of familiar responsibility in the same direction in middle and late adolescence, but the indirect effect will be significantly higher in middle adolescence than late adolescence.

Method

Participants

The sample consisted of 322 adolescents (145 boys and 176 girls, plus one case in which sex was not reported) aged between 13 and 21 years ($M = 15.84$, $SD = 2.03$), and was divided into two age groups according to school grade: 9th grade (middle adolescence group; n = 183; $M = 14.14$, $SD = .47$) and the last grade of high school, in which in Italy students are aged to 18–19 years. For convenience we will refer to this grade group as the late adolescence group (n = 138; $M = 18.12$, $SD = .56$; $t\ (318) = 69.10$, $p < .001$). The gender composition of the groups was similar ($\chi^2\ (1) = .02$, $p > .05$).

Socio-demographic data were also collected. Most participants had been born in Italy (92.5 %), lived in two-married parent households (78.6 %) and had siblings (one sibling: 58.5 %; two siblings: 17.3 %; three or more siblings: 4.1 %). The adolescents' families belonged to the upper-middle class, their parents had either a diploma (mother: 50.3 %; father: 44.7 %) or a master's degree (mother: 35.0 %; father 35.0 %) and worked as employees (mother: 38.2 %; father: 30.0 %), managers or independent professionals (mother: 19.0 %; father: 45.3 %); 20.0 % of mothers were also housewives.

Procedure

Participants were recruited from three secondary schools in a region in Northern Italy. Parents provided written consent for their children's participation: none of the parents refused consent and all children decided to participate. Data collection was carried out in the classrooms over 1 h, in the presence of the teacher and the researcher who administered the questionnaire. Participation in the study was voluntary and anonymous, and participants were encouraged to answer individually and as truthfully as possible.

Measures

Family Functioning

The *Family Adaptability and Cohesion Evaluation Scale* (FACES IV) was used to assess how adolescents perceived the functioning of their families. The Italian version based on the Olson's last improvements added to FACES IV (Olson 2011) and validated by Baiocco et al. (2013) in a sample of Italian adolescents and young adults was chosen. FACES IV contains 42 items that assess six dimensions: two balanced scales, cohesion ($\alpha = .78$) and flexibility ($\alpha = .70$), assessing the central-moderate areas of the circumflex model, and four unbalanced scales, enmeshment ($\alpha = .60$), disengagement ($\alpha = .72$), chaos ($\alpha = .56$) and rigidity ($\alpha = .72$) assessing the lower and the upper extremes of cohesion and flexibility. The dimensions of cohesion and flexibility were assessed through items pertaining, respectively, the emotional bonding among family members (e.g. "In our family we like to spend our free time together") and the family leadership, rules, organization and negotiation (e.g. "In our family we have clear roles and rules"). Items measuring enmeshment and disengagement were respectively: "Members of our family

are too dependent one from the other" and "Members of our family rarely do things together"; items referred to chaos and rigidity were respectively: "In our family it's difficult to say who is the leader" and "Our family is very organized". All dimensions are measured on a five-point Likert scale where 1 indicates 'totally disagree' and 5 'totally agree'.

Parental Monitoring

Adolescents' perception of parental monitoring was assessed with the *Parental Monitoring Questionnaire* (Kerr et al. 2010; Stattin and Kerr 2000), validated in Italy by Miranda et al. (2012). This scale is composed of 25 items used to assess four different dimensions of parental monitoring on a five-point Likert scale, where 1 indicates 'not at all', and 5 'always'. The four dimensions were: (a) *parental knowledge*, assessed with a nine-item subscale assessing perceptions of parents' knowledge about one's whereabouts, activities and peers; (b) *youth disclosure*, assessed with a five-item subscale capturing adolescents' tendency to provide unsolicited information; (c) *parental control*, assessed with a six-item subscale containing items asking about whether the adolescent is required to inform parents about where he or she will be and with whom and (d) *parental solicitation*, assessed with a five-item subscale relating to parental tendency actively to seek information about the adolescent. This scale can also be used to calculate a global parental monitoring score (25 items), which is what we did in this study. The internal consistency of the scale in this study was .87.

Familiar Responsibility

Adolescents' sense of responsibility towards their families was assessed with the *Adolescents' perception of Familiar Responsibility Scale* (*APeFReS*). This instrument is the Italian validation and adaptation (Fruggeri et al. 2009) of the English version developed by Field and Yando (1991). It is a thirteen-item scale with responses given on a five-point Likert scale from 'rarely' to 'very often', divided into subscales assessing *receptive responsibility*, availability to give emotional support when the family requests it, and *proactive responsibility*, capacity to take responsibility for meeting family needs even if not specifically requested. On this subscale there are items about doing housework, making mother/father (to whomever the student feels closest) feel better when she/he is down, and having more responsibilities than one's peers. In this study we considered familiar responsibility as a global factor. The internal consistency of the scale in this study was .80.

Data Analyses

Hypotheses were tested in two linked steps. First the simple mediation model was tested (Hypotheses 1–3). Second the moderator variable adolescent age (two groups) was integrated into the model and the moderated mediation hypotheses were tested (Hypotheses 4a and 4b). Two cases were excluded from the analyses owing to a high number of missing responses. Both cases were from the middle adolescence group, giving a final sample of 320 adolescents. All continuous measures were standardized. Normality of distribution was checked, none of the measures had both asymmetry and kurtosis higher than 1 or lower than −1 (Muthén and Kaplan 1992).

Tests of Mediation

In testing Hypotheses 1, 2, and 3 we followed the recommendation by Preacher and Hayes (2004) that mediation analyses based on the Sobel test (1982) are more powerful than the only stepwise procedure (Baron and Kenny 1986), on the grounds that mediation is assessed in a more direct manner. We tested our mediation hypotheses separately on individual dimensions of FACES IV using the SPSS macro PROCESS (Hayes 2013). This procedure enables calculation of the indirect effect *ab* integrating: (a) a normal theory approach (Sobel 1982), (b) a bootstrap approach to obtain confidence intervals (CIs), and (c) the stepwise procedure described by Baron and Kenny (1986). Bootstrapping is recommended to avoid power problems introduced by asymmetric and non-normal distribution of an indirect effect (MacKinnon et al. 2004). In the analysis reported here we ran model 4, with 5,000 bootstrap re-samples (Hayes 2013).

Test of Moderated Mediation (Conditional Indirect Effects)

Concerning we predicted that age group would moderate the relationship between parental monitoring and familiar responsibility (Hypotheses 4a and 4b). We also predicted that the strength of the hypothetical mediation (indirect effect) would be conditional on the value of the moderator (age group). To test this possibility, we compared the two age groups (middle and late adolescents) using the SPSS macro PROCESS (Hayes 2013; Preacher et al. 2007). This allowed us to implement the recommended bootstrapping and investigate the strength of conditional indirect effects at different values of the moderator variable. The PROCESS procedure was applied separately to individual dimensions of FACES IV. We ran model 14, with 95 % of 5,000 bootstrap re-samples (Hayes 2013).

Results

Means, standard deviations and correlations between the study variables are reported in Table 1, together with the reliability of the various measures used.

Table 1 Descriptive statistics and correlations among study variables (N = 320)

	Alpha	*M*	*SD*	1.	2.	3.	4.	5.	6.	7.	8.
1. Cohesion	.78	35	26.53	1.00							
2. Flexibility	.70	35	24.86	.65***	1.00						
3. Disengagement	.72	35	16.16	−.69***	−.57***	1.00					
4. Enmeshment	.60	28	14.49	−.08	.07	.06	1.00				
5. Rigidity	.72	35	20.78	.19**	.34***	−.16**	.30***	1.00			
6. Chaos	.56	29	16.37	−.23***	−.23***	.28***	.11*	−.28***	1.00		
7. Parental monitoring	.87	4.68	3.48	.54***	.41***	−.46***	.05	.34***	−.18**	1.00	
8. Familiar responsibility	.80	4.58	3.17	.56***	.51***	−.42***	.06	.19**	−.14*	.40***	1.00

* $p < .05$; ** $p < .01$; *** $p < .001$

The correlations showed that most variables were highly correlated ($p < .001$). Scores on the two balanced scales of the main dimensions of FACES IV (cohesion and flexibility) were highly correlated ($r = .65$, $p < .001$), and were negatively correlated with the unbalanced scales of disengagement and chaos. It has been suggested that given the high correlation between cohesion and flexibility, these variables should be considered together as a global indicator of family functioning (see Baiocco et al. 2013). In the subsequent analyses we treated these variables as a single factor. The correlations among scores on the dimensions of the unbalanced scales were not sufficient to warrant the construction of a global indicator, so we considered them separately.

Contrary to our expectations, score on the unbalanced rigidity scale was associated with both cohesion ($r = .19$, $p < .01$) and flexibility ($r = .34$, $p < .001$), which are indicative of adaptive family functioning. We interpreted this result as an indication that adolescents generally perceive their family context as too normative and constraining because of their need to affirm their autonomy. In this sample rigidity was consistently found to be an indicator of adaptive family functioning.

Enmeshment appeared to be independent of most other variables although it was correlated with rigidity ($r = .30$, $p < .001$). We found the enmeshment construct problematic as it was not associated with either parental monitoring or adolescent familiar responsibility and therefore we did not include the enmeshment variable in the tests of mediation and moderated mediation. There was an association between parental monitoring and familiar responsibility. These variables were also positively correlated with cohesion, flexibility and rigidity and negatively correlated with disengagement and chaos.

Tests of Mediation

Hypothesis 1 was generally confirmed, with the exception of H1b, which predicted a negative association between rigidity and parental monitoring. Replicating the results of the correlation analysis rigidity was positively associated with parental monitoring ($b = .34$, $SE = .06$, $t = 5.99$, $p < .001$), confirming that rigidity is an indicator of adaptive parenting, as well as cohesion and flexibility ($b = .53$, $SE = .05$, $t = 10.01$, $p < .001$). Both disengagement ($b = -.46$, $SE = .05$, $t = -8.42$, $p < .001$) and chaos ($b = -.18$, $SE = .05$, $t = -3.27$, $p < .01$) were negatively associated with parental monitoring, confirming that problematic family functioning is associated with more limited parental monitoring of children.

In all four models, parental monitoring was positively associated with familiar responsibility, confirming Hypothesis 2 (cohesion and flexibility: $b = .13$, $SE = .06$, $t = 2.20$, $p < .05$; rigidity: $b = .38$, $SE = .06$, $t = 6.73$, $p < .001$; disengagement: $b = .27$, $SE = .06$, $t = 4.67$, $p < .001$; chaos: $b = .39$, $SE = .05$, $t = 7.51$, $p < .001$).

Confirming Hypothesis 3, family functioning variables were found to have indirect effects on familiar responsibility. Hypotheses H3a, H3c and H3e were confirmed, cohesion-flexibility had a positive indirect effect on familiar responsibility ($ab = .07$, $SE = .03$, $t = 2.14$, $p < .05$) but disengagement ($ab = -.12$, $SE = .03$, $t = -4.06$, $p < .001$) and chaos ($ab = -.07$, $SE = .02$, $t = -2.98$, $p < .01$) had a negative indirect effect on familiar responsibility. Hypothesis H3b was not supported, rigidity had an indirect positive effect on familiar responsibility ($ab = .13$, $SE = .03$, $t = 4.44$, $p < .001$). Bootstrap results confirmed the results of the Sobel test, with a bootstrapped 95 % CI around all the indirect effects not containing zero the indirect effects on familiar responsibility were as follows: cohesion-flexibility (.07, *SE* .03, CI .01–.13); rigidity (.13, *SE* .03, CI .08–.19); disengagement (−.12, *SE* .03, CI −.19 to −.07); chaos (−.07, *SE* .02, CI −.12 to −.03).

Parental monitoring partially mediated the impact of cohesion-flexibility and disengagement on familiar responsibility: the direct effect of family functioning on

familiar responsibility remained significant after taking into account the mediator effect, cohesion-flexibility ($b = .52$, $SE = .05$, $t = 9.37$, $p < .001$); disengagement ($b = -.30$, $SE = .06$, $t = -4.93$, $p < .001$). The effects of rigidity and chaos on familiar responsibility were completely mediated by parental monitoring: the direct effects of these variables on familiar responsibility was not significant after taking into account the mediating effect of parental monitoring ($p > .05$).

In summary, the analysis showed that cohesion-flexibility and disengagement have direct and indirect influences on development of a sense of responsibility towards one's family. Parental monitoring enhanced the positive effect of a well-functioning family system on the development of a sense of familiar responsibility and protected against the negative effect of a disengaged family. Chaos and rigidity did not directly predict the development of a sense of familiar responsibility, but parental monitoring buffered the negative impact of chaos on the development of a sense of familiar responsibility and enhanced the positive influence of rigidity.

Tests of Moderated Mediation (Conditional Indirect Effect)

Hypothesis 4a and 4b predicted that mediation of the relationship between family functioning variables and familiar responsibility by parental monitoring would be stronger in younger adolescents (14–15 years) attending 9th grade, than older adolescents (18–19 years) attending 13th grade. The age group variable was therefore introduced at this stage of the analyses.

First we examined whether age group (middle or late adolescence) moderated the relationship between parental monitoring and familiar responsibility (Hypothesis 4a); then we tested whether the mediation of the relationship between family functioning and familiar responsibility by parental monitoring was moderated by stage of adolescence (Hypothesis 4b).

Hypothesis 4a was not confirmed. Stage of adolescence was not a significant moderator of the relationship between parental monitoring and familiar responsibility. The cross-product term between parental monitoring on familiar responsibility was not significant for any of the four family functioning variables we considered (all $p > .05$). Although parental monitoring associated with adolescents' age did not influence familiar responsibility, we wanted to investigate the conditional indirect effect of family functioning dimensions on familiar responsibility through parental monitoring in the two groups of adolescents (Hypothesis 4b).

Our analyses indicated that the conditional indirect effect of family functioning variables on familiar responsibility through parental monitoring for the two age groups (0 = middle adolescence, 1 = late adolescence) was similar for all the investigated family functioning variables. Bootstrap CIs indicated that the conditional indirect effects based on moderator were positive and did not contain zero for cohesion-flexibility (middle adolescence: .10, *SE* .04, CI .02–.18; late adolescence: .08, *SE* .04, CI .01–.16) and rigidity (middle adolescence: .13, *SE* .03, CI .08–.20; late adolescence: .15, *SE* .04, CI .08–.24) and were negative and did not contain zero for disengagement (middle adolescence: −.14, *SE* .04, CI −.22 to −.08; late adolescence: −.14, *SE* .04, CI −.23 to −.06) and chaos (middle adolescence: −.07, *SE* .02, CI −.12 to −.03; late adolescence: −.08, *SE* .03, CI −.15 to −.03). Hypothesis 4b was not supported: all four indices of moderated mediation contained zero, confirming that there was no significant difference between the two indirect effects. The analyses of moderated mediation showed that after controlling for family functioning variables and parental monitoring, the regression of familiar responsibility on age group was positive and significant ($p < .001$).

In summary, stage of adolescence did not moderate the direct (H4a) or indirect (H4b) effects as we predicted. The strength of the observed relationships was similar in the two age groups. Parental monitoring had a buffering positive effect on familiar responsibility in dysfunctional families and it enhanced the positive effects of well-functioning families similarly in both middle and late adolescence.

Discussion

This research has provided evidence on the relationships among family functioning, parental monitoring and adolescents' sense of responsibility towards their families. Most of our predictions were confirmed. Flexibility and cohesion were positively associated with parental monitoring, whereas disengagement and chaos were negatively associated with parental monitoring. In other words, adolescents who perceived their families to be well-functioning also considered that they were subject to a high level of parental monitoring, whereas adolescents in troubled families reported a lack of parental monitoring. These results are in line with other research on parenting styles (Baumrind 1991; Olson and Gorall 2006).

Against expectations adolescents in our study associated rigidity with parental monitoring. This is inconsistent with research on the circumplex model (Olson and Gorall 2006), which identifies rigidity as an indicator of family dysfunction, as it implies the existence of a rigid and highly differentiated family hierarchy, severe rules, strong leadership and thus very low adaptability. Our contradictory result is per se of difficult interpretation. One possible clue

could emerge taking a sociocultural perspective. Cross-cultural research (Claes et al. 2011; Georgas et al. 2006; Lanz 2000) indicates that compared with adolescents in other countries, Italian adolescents (the sample in this study) have a stronger sense of loyalty to their families, which often causes them to postpone their transition to independent living. From this point of view, our Italian adolescent participants might have interpreted 'rigidity' as a protective, emotional bond related to more general parental engagement e.g. awareness of their children's activities, friends and interests. Taken as a whole these results are consistent with the small body of existing research reporting that parental monitoring is significantly associated with family functionality (Henry et al. 2008; Mupinga et al. 2002).

This study was intended to further analyze the issue; specifically it meant to investigate whether parental monitoring predicted development of a sense of familiar responsibility and to corroborate previous results showing that parental monitoring influenced adaptive behavioral development in children (e.g. Simpkins and Parke 2002; Smorti et al. 2010). Our results supported the hypothesis that higher perceived parental monitoring was associated with a perception of a greater familiar responsibility in adolescence. As various authors have pointed out (Auhagen and Bierhoff 2001; Greenberger 1984; Taylor et al. 1997), the assumption of responsibility, in terms of helping out and supporting one's family, is a relational competence indicating adolescents' psychosocial maturity; this competence is fostered by positive parenting practices. Accordingly, our results suggest that parental monitoring should be considered a facilitator of development of sense of responsibility towards one's family and, in general, of adolescents' maturity.

We also assumed that parental monitoring was mediator of the relationship between family functioning and familiar responsibility. Specifically, we predicted that parental monitoring would enhance the impact of functional family dimensions on the development of familiar responsibility and diminish the negative impact of dysfunctional family dimensions. The results confirmed this prediction, demonstrating that parental monitoring became the only condition that enhanced the development of familiar responsibility in rigid and chaotic families. This demonstrates that hierarchical family structures, typical of rigid family systems, do not allow children to become responsible; correspondingly the absence of organization, which characterizes chaotic families, may not promote children's responsibility. Parental monitoring however appears to promote the development of responsibility towards one's family, family dysfunctionality notwithstanding. Parental monitoring enhanced the positive effect of rigidity on development of familiar responsibility, and protected against the negative effect of chaos.

The relationship between parental monitoring and development of familiar responsibility was different in cohesive-flexible and disengaged families. In these families the sense of familiar responsibility was directly affected by family functioning, and indirectly affected by parental monitoring. The causal mechanisms are rather more obvious in these cases and it is more interesting to reflect on the relationships among parental monitoring, family functioning and development of familiar responsibility in disengaged families. The circumplex model posits that maladaptive families are characterized by rigidity, disengagement, chaos and enmeshment, but in our study only disengagement had a direct negative effect on sense of familiar responsibility. This negative effect was buffered by having parents that monitored their children closely, a result which provides further evidence that parental monitoring is a protective factor in child psychosocial adjustment.

We also tested how relationships were moderated by adolescent age, finding that contrary to our predictions age did not influence the relationships among the study variables. No conditional effects involving age were detected; the relationship between parental monitoring and familiar responsibility was similar in middle and late adolescence, as was the indirect relationship between family functioning and familiar responsibility. It appears that is the way in which family relationships are built and consolidated which influences the capacity of adolescents to help and support their families. This is consistent with studies taking a contextualist and process-oriented approach to development (Ford and Lerner 1992; Kreppner 2002; Minuchin 2002), which seek to relate developmental trajectory to relational contexts such as the family context.

The only age-related effect we found was a positive association between stage of adolescence and perceived familiar responsibility; older adolescents reported feeling more responsible than younger adolescents. This may be interpreted in terms of a self-presentation effect (Harter 2003): by the time individuals reach late adolescence and emerging adulthood they possess an abstract notion of the self and have internalized the social approval they have received for their self-presentations (Nurmi 2004). In a social context such as being involved in the research for this study, it is possible that late adolescents attach greater importance than do middle adolescents to presenting themselves as mature, so as to align their self-presentation with what they presume to be the expectations of the researcher.

Conclusion

Understanding the interplay of family functioning, parenting behaviors and developmental outcomes is relevant to the attempts to improve the effectiveness of psychosocial and

clinical interventions with adolescents and their families. Our results provide evidence for the benefits of designing interventions, which take account of overall family functioning and the parental practices, in particular parental monitoring. Parental monitoring has a protective effect and appears to promote the development of familiar responsibility and the overall psychosocial adjustment of adolescents growing up in dysfunctional family contexts. Thus, targeting parenting practices in at-risk families may have a beneficial effect on the functioning of the family system as a whole.

There are some limitations to this study. First the relationships observed were based only on adolescents' perceptions of the variables involved. Collecting data on parents' perspectives on the same variables would provide a more comprehensive view of the studied variables. Second, we tested a mediation model using a measure of responsibility that was based mainly on items related to responsibility in the family context, it would be interesting to investigate whether the effects of family functioning factors and parental monitoring are the same when other indices of responsibility are used. Third, it would be useful to investigate how the different aspects of parental monitoring (control, solicitation, knowledge and youth disclosure) influence development of a sense of responsibility, and how they mediate the relationship between family functioning and other social competences in adolescence.

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