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ORIGINAL PAPER

The Role of Separation Anxiety in Mothers' Use of Autonomy Support: An Observational Study

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Abstract Parental separation anxiety has been identified as a detrimental factor for parent-adolescent relationship quality and, ultimately, for adolescents' psychosocial adjustment. However, few studies have examined how separation anxiety is related to parents' style of interaction with their adolescent, which is unfortunate as this interaction style could explain why separation anxiety is related to negative outcomes. The present study (a) examined the association between maternal separation anxiety and mothers' autonomy-supportive, relative to controlling, conversation style as observed in mother-adolescent interactions about the adolescents' friendships, and (b) investigated the link between maternal separation anxiety and mothers' personal experiences during the conversation. A total of 62 mother–adolescent dyads (*M* age mothers = 44 years, *M* age adolescents = 14 years) were willing to participate in this study. After mothers filled out a measure of separation anxiety, mothers' autonomy-supportive and controlling practices were observed and coded during a 10-min conversation. Further, mothers reported on their emotional and motivational experiences during the conversation. Mothers high on separation anxiety were observed to be less autonomy-supportive and to experience the conversation as more stressful (e.g., more pressure, more tension, and more relief at the end). Clinically, our results suggest that maternal separation anxiety is an important target for intervention and prevention efforts aimed at promoting autonomy-supportive parenting.

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Introduction

Parental separation anxiety involves parents' experience of negative emotions, such as worry, discomfort, and anxiety, in relation to children's increasing distance-taking (Hock and Lutz 1998; Hock et al. 1989). Separation anxiety has typically been studied in mothers of young children and is seen as a predictor of the quality of mother–child attachment (e.g., McBride and Belsky 1988). In infancy, parental concerns about separation with the child are quite common and moderate levels of such anxiety may be adaptive because they prompt parents to provide protection and comfort (Bowlby 1973). However, in later developmental periods, high levels of parental separation anxiety may be less beneficial for children's development as children become more self-reliant and spend more time away from parents as they grow older (Larson et al. 1996). This development of independence becomes particularly prominent in adolescence, as it is part of a process of increasing individuation in that life period (Lapsley and Stey 2010). At the same time, children and adolescents continue to need their parents as a secure base from which they can explore their environment. Through this separation-individuation process adolescents are challenged to transform the relationship with their parents thereby pursuing a balance between keeping in contact with the family and forming an individuated self (Allen and Hauser 1996; Cooper and Grotevant 2011).

Although all parents of adolescents are confronted with this process of increasing separation-individuation, parents differ in the way they cope with the challenges arising from the process. Whereas some parents manage to handle these changes effectively, others perceive this individuation process as a threat to the parent–child relation, as it signals that adolescents would no longer need them (Simpson and Rholes 1994). During adolescence, parental separation anxiety refers to feelings of stress and concern regarding the decreasing involvement of the adolescent with the parent and the growing affiliation with others (e.g., peers and friends) (Hock et al. 2001). Research has shown that parental separation anxiety has negative repercussions for the quality of parent-adolescent relationships and, ultimately, for adolescents' psychosocial adjustment. Hock et al. (2001), for instance, showed that parental anxiety about distancing (AAD), which is a core feature of separation anxiety, relates to conflict and to insecure attachment in parent–adolescent relationships. Further, maternal separation anxiety was found to relate to adolescents' identity deficits and to disturbances in the separation-individuation processes (Bartle-Haring et al. 2002; Kins et al. 2011). However, few studies have examined how separation anxiety is related to parents' style of interacting with their adolescent. This is unfortunate because this interaction style could explain why separation anxiety relates to negative developmental outcomes.

A number of studies addressed the question whether parental separation anxiety is related to autonomy-suppressing and controlling parenting. The reasoning behind these studies is that separation anxiety may elicit controlling attempts to inhibit the adolescents' age-appropriate independent behavior. Controlling parenting would be used in an attempt to remain in close contact with the child. Consistent with this reasoning, it has been shown that parental separation anxiety is related to measures of parental psychological control (e.g., Kins et al. 2011; Soenens et al. 2006; Soenens et al. 2010), an intrusive and manipulative parenting dimension expressed via guilt-induction, love withdrawal, and shaming (Barber1996; Soenens and Vansteenkiste 2010). As such, parents' difficulty in handling their adolescents' independence appears to increase the odds of using controlling tactics that pressure the child to remain within close physical and emotional proximity.

Based on self-determination theory (SDT; Deci and Ryan 2000), we argue that it is important to build on this research by examining associations between parental separation anxiety and the broader dimension of parental autonomy support relative to parental control (rather than focusing exclusively on psychological control). According to SDT, autonomy-supportive parenting is crucial to foster development because it supports children's basic psychological needs for autonomy, competence, and relatedness (Grolnick et al. 1997; Joussemet et al. 2008). Autonomy-support is defined as the degree to which parents promote volitional functioning and self-endorsement in children (Grolnick et al. 1997; Soenens et al. 2007). To do so, autonomy-supportive parents try to relate to the child's frame of reference, allow choices when possible, encourage self-initiation, and provide a meaningful rationale for a request. Autonomy-supportive parenting can be contrasted with controlling parenting, which in SDT is defined as parenting that is pressuring and domineering in nature (Assor et al. 2004; Grolnick and Pomerantz 2009; Soenens and Vansteenkiste 2010). Controlling parenting can be manifested through the reliance on externally controlling techniques that pressure the child from the outside (e.g., threats; yelling) or more internally controlling techniques that pressure the child from within. In the latter case, parents appeal to internally pressuring feelings such as guilt, loyalty, shame, and anxiety, for instance through the expression of disappointment or through adopting a conditionally approving attitude.

Further, whereas most studies on parental separation-anxiety and controlling parenting were limited by the use of self-reports, the inclusion of ratings of observed parenting has several advantages. Methodologically, it allows for a more conservative test of the hypothesized association with maternal separation anxiety, as associations obtained between variables are not inflated by factors such as response tendency, social desirability, or shared method variance. Further, the observation of autonomy-supportive, relative to controlling, parenting can yield more precise insight in the way this parenting dimension manifests in actual parent–adolescent conversations. Such insight is important, not only from a conceptual viewpoint, but also from a practical viewpoint as it informs parents and practitioners in detail about what it means to adopt an autonomy-supportive approach in interaction with adolescents.

Additionally, rather than relying on a generic measure of maternal conversation style, it is important to focus on mothers' conversation style in the context of a specific and separation-relevant theme (e.g., adolescent activities and affiliations with their friends). For parents high on separation-anxiety, relationships outside the family context may more easily be perceived as a threat to the parent–child bond. Driven by their fear of separation, mothers high on separation anxiety may want to obtain more detailed information about these activities and friends, may use more threatening language to warn for the risks of affiliating with certain friends, and may more easily express their disappointment about the increasing distance of their adolescents. In doing so, parents are more likely to be meddlesome, controlling, and autonomy-suppressing, as

they intrude upon their children's private territory. Indeed, research in the context of Social Domain Theory has shown that adolescents consider friendships and peer relations as personal matters over which parents have little legitimate authority (Kakihara and Tilton-Weaver 2009; Smetana et al. 2006).

Maternal separation anxiety may predict not only mothers' conversation style but also their emotional and motivational experiences during the conversation. First, mothers may differ in how they experience the conversation emotionally, as reflected in the tension they experience during the conversation and the relief they feel at the end of the conversation. Specifically, it can be hypothesized that separation-anxious mothers experience a conversation regarding adolescents' friendship affiliations as causing more distress and tension and that they would be more relieved when the potentially threatening situation has ended, that is, when the conversation about friendships is over. Indirect evidence for this reasoning comes from research demonstrating that anxious attachment (which is characterized by heightened separation anxiety; Mikulincer and Shaver 2003, 2007) relates to elevated levels of emotional distress when discussing separation-related topics and when encountering situations involving actual separation (Feeney and Kirkpatrick 1996). Apart from these different emotional experiences, mothers may differ in their reasons to connect with their children and to engage in the conversation. As articulated in SDT, these reasons can vary in their level of autonomy and volition (relative to control and pressure). Four different reasons are distinguished (Deci and Ryan 2000; Ryan and Connell 1989). First, mothers may engage in the conversation with their child for externally pressuring reasons (i.e., external reason), for instance, to meet expectations for good parenting held by others or to avoid being criticized in their role as a mother. Second, mothers can also engage in the conversation out of internally pressuring reasons (i.e., introjected reason), for instance, because otherwise they would feel guilty or because they believe that this is what good mothers should do. Third, mothers can engage in the conversation because they see the personal value of having a conversation about the friendship affiliations of the child (i.e., identified reason). Finally, mothers can enjoy talking with their child about his or her friends, just because they are interested and find it fun to do so (i.e., intrinsic reason). As mothers high on separation anxiety would interpret adolescents' growing number of affiliations with others outside the family context as a threat for the mother–child bond (Hock et al. 2001), the request to talk about these affiliations might be perceived as more pressuring for them.

This study has two main research aims. First, we examined whether mothers high on maternal separation anxiety differ in the way they communicate with their adolescent during a conversation about the adolescent's friendships. We expected that mothers high on separation anxiety would be less autonomy-supportive and more controlling during the conversation. Second, we examined the relation between maternal separation anxiety and mothers' personal emotional and motivational experiences during the conversation. We hypothesized that mothers high on separation anxiety would feel more tension during the conversation, would feel more relieved at the end of the conversation, and would have more pressuring (i.e., external and introjected) reasons to regulate their behavior. Although some evidence suggests that separation anxiety is relevant for both mothers and fathers (Bartle-Haring et al. 2002), separation anxiety has been found to be more common among mothers (e.g., Kins et al. 2011) and has typically been studied in mothers. Because the present study is among the first observational studies to examine the role of separation anxiety in parental conversation style, we focused on mothers. Evidently, future research on this topic also needs to include fathers.

Methods

Participants

Participants were 62 Belgian (Dutch-speaking) mothers and their adolescent daughter or son. Mother–adolescent dyads were recruited through different channels, that is, via an announcement in a local newspaper (32%), via an invitation letter spread through the school of the adolescent (44%) or via other channels (e.g., a school newspaper and snowball sampling) (24%). Initially, 75 mother–adolescent dyads were invited to the laboratory. Because 12 of them did not show up at the appointment (16%), 63 dyads participated in the study. One mother–adolescent dyad was excluded from the analyses because of their limited knowledge of the Dutch language.

On average, mothers were 44 years old (SD = 3.46; range = 37–55) and adolescents were 14 years old (SD = 1.19; range = 12–16) with a majority of them being female (77%). Most mothers were highly educated, as 90% obtained a college or university degree. Most of the adolescents followed an academic track (i.e., 80%), and 18 and 2% were attending a technical or vocational track, respectively. Seventy-three percent of the mothers were married or living together with the biological father of their child.

Procedure

The procedures employed during all phases of the study were approved by the Ethical Committee at Ghent University. The study was conducted by two researchers, who

Table 1 Descriptive statistics, internal consistencies, and correlations between separation anxiety, tension during and relief at the end of the conversation, reasons for engaging in the conversation, and observed autonomy-supportive relative to controlling conversation style

	M (SD)	α	1	2	3	4	5	6	7	8
Separation anxiety	2.32 (0.83)	0.85	–	–	–	–	–	–	–	–
Tension	1.37 (0.62)	0.82	0.34**	–	–	–	–	–	–	–
Relief	1.53 (0.77)	0.87	0.29*	0.34**	–	–	–	–	–	–
Intrinsic reasons	4.60 (0.52)	0.86	0.04	−0.06	−0.42**	–	–	–	–	–
Identified reasons	4.17 (0.75)	0.82	0.14	−0.10	−0.16	0.65***	–	–	–	–
Introjected reasons	2.01 (0.94)	0.75	0.46***	0.22+	0.21	0.14	0.31*	–	–	–
External reasons	1.65 (0.72)	0.74	0.36**	0.23+	0.41**	−0.13	−0.15	0.45***	–	–
Observed autonomy-supportive, relative to controlling, conversation style	4.97 (0.40)	0.92	−0.42**	−0.23+	−0.41**	0.06	−0.12	−0.10	−0.18	–

Note $+p < 0.10$ $*p < 0.05$ $**p < 0.01$ $***p < 0.001$

each met 31 mother–adolescent dyads. Mother–adolescent dyads received an informed consent stating that their conversation would be videotaped. None of the 62 dyads refused participation. In a separate room, the mother provided demographic information and filled out some questionnaires, including the separation anxiety questionnaire (Hock et al. 2001) described below.

Next, mothers and adolescents were invited to have a 10-min conversation regarding the adolescent's friendships. Specifically, we instructed both mother and adolescent to talk about the adolescent's friends, what they had done together the last two weeks, and how the adolescent experienced these friendship activities. Next, mothers completed a questionnaire about their experiences during the conversation with their child. Afterwards all participants were debriefed about the purpose of the study and were invited to an information session regarding the results of the study that took place half a year later.

Measures

All items of the self-report measures were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Descriptive statistics and internal consistencies of all measures are in Table 1.

Separation anxiety

Prior to the conversation, we assessed maternal separation anxiety using six items from the AAD scale of the Parents of Adolescents Separation Anxiety Scale (PASAS; Hock et al. 2001). These items were selected on the basis of a factor-analysis on a large sample of mothers ($N = 566$; Soenens et al. 2006). Cronbach's alpha of this 6-item scale in the Soenens et al. (2006) data set was 0.77 and the correlation between this shortened scale and the original 21-item scale was $r(540) = 0.91$, $p < 0.001$. The ADD scale measures parents' negative emotions experienced in response to their children's increasing independence and imminent leave-taking (e.g., "I feel sad when I realize my teenager no longer likes to do the things that we used to enjoy doing together.").

Tension during the conversation

Maternal tension was measured by three items derived from the Positive and Negative Mood Schedule (PANAS; Watson et al. 1988). Mothers reported how tense (i.e., nervous, stressed, tense) they had felt after receiving the task instructions (i.e., the manipulation).

Relief at the end of the conversation

Mothers filled out a questionnaire with three items measuring their feelings of relief at the end of the conversation. These items were developed for this study (e.g., "The end of the conversation felt as a relief.").

Reasons for engaging in the conversation

To measure mothers' reasons for engaging in the conversation with their child, we adapted the self-regulation questionnaire (Ryan and Connell 1989). This questionnaire was administered after the conversation. The questionnaire started with an item stem reading "During the past conversation, I asked my child to tell me about his friends and their activities because …". Following this stem, mothers were asked to rate items tapping into four different reasons, that is, external (e.g., "… I felt forced to do so."; 4 items), introjection (e.g., "… otherwise I would feel bad about myself."; 4 items), identification (e.g., "…I understand why this is important."; 4 items) and intrinsic reasons (e.g., "…I like to share things with my child."; 4 items).

Observed autonomy support relative to control

All 10-min-conversations were videotaped and broken down into five 2-min intervals. Within these intervals, autonomy-supportive and controlling practices were rated using a specific coding system designed to observe autonomy-supportive and controlling parental behaviors during conversations with adolescents.

The development of this instrument proceeded through different phases. In a first phase, the authors watched 5 of the 62 videotapes together to get acquainted with the nature of the conversations. They then formulated an initial set of items reflecting autonomy support and control. Some of these items were taken and adapted from previously used rating systems in different life domains (Deci et al. 1993; Grolnick et al. 2007; Mauras et al. 2013; Reeve and Jang 2006), while other items were new and were informed by the viewing of the videotapes. In a second phase, two raters coded the first five videotapes. Based on their experiences while coding, they highlighted a few problems with some of the items (e.g., lack of clarity of the items, problems using the rating scale, and low frequency of occurrence of some of the behaviors). These problems were discussed with all authors and refinements to the coding scheme were made. Then, the remaining 57 videotapes were coded. The final coding scheme consisted of 19 items, 9 of which tapped into autonomy-supportive behaviors and 10 of which tapped into controlling behaviors.

An exploratory factor analysis using Principal Axis Factoring was performed on the 19 items. The scree-plot pointed to a one-factor solution, with an eigenvalue of 7.47. After excluding two items with a low (< 0.30) loading, all items had a minimal loading of 0.37 and the factor solution explained 43.92% of the variance. All autonomy-supportive items yielded a negative loading, while all controlling items yielded a positive loading. The final coding scheme consisted of 17 items (8 itemsfor autonomy support and 9items for controlling behaviors), which had to be coded on a scale ranging from 1 (*totally absent*) to 7 (*strongly present*). To create a composite score for observed autonomy-supportive, relative to controlling, conversation style, we averaged all items, thereby reverse coding the controlling items. One rater (i.e., the first author) scored all items of the coding scheme for all videotapes. A second rater independently scored a random sample of 41 videotapes (i.e., 66%). The inter-rater intra-class correlation of the total score was 0.72 ($p < 0.001$).

Data Analyses

Before addressing the main research questions, we conducted a multivariate analysis of covariance to explore whether background variables were associated with the study variables and should be controlled for in the main analyses. To investigate our central hypotheses (i.e., examining the associations between maternal separation anxiety, autonomy-supportive relative to controlling conversation style, and mothers' personal experiences during the conversation), we inspected the correlations between maternal separation anxiety and the various self-reported (i.e., maternal emotions and motives) or observed outcomes (i.e., conversation style). Finally, to gain more detailed insight in the association between maternal separation-anxiety and specific features of mothers' communication, we inspected the correlations between self-reported maternal separation anxiety and each of the observed autonomy-supportive and controlling practices.

Results

In a preliminary set of analyses, we first examined differences in the study variables in terms of adolescents' gender, adolescent and maternal age, adolescent and maternal educational level, family structure, and number of children in the family. None of the background variables had a significant multivariate association with the study variables; adolescent gender (Wilks' Lambda = 0.85, $F(8, 44) = 0.95$, $p = 0.487$), adolescent age (Wilks' Lambda = 0.86, $F(8, 44) = 0.87$, $p = 0.551$), adolescent educational level (Wilks' Lambda = 0.84, $F(8,44) = 1.06$, $p = 0.409$), maternal age (Wilks' Lambda = 0. 74, $F(8, 44) = 1.93$, $p = 0.079$), maternal educational level (Wilks' Lambda = 0. 85, $F(8, 44) = 0.96$, $p = 0.475$), family structure (Wilks' Lambda = 0. 85, $F(8, 44) = 0.98$, $p = 0.462$), and number of children in the family (Wilks' Lambda = 0. 86, $F(8, 44) = 0.88$, $p = 0.540$).

Second, we investigated correlations between maternal separation anxiety and each of the outcome variables (both self-reported and observed). Results are presented in Table 1. Maternal separation anxiety was related negatively to observed maternal autonomy support relative to control. In addition, maternal separation anxiety was associated positively with mother-reported tension, relief at the end of the conversation, introjected and external reasons, but was unrelated to identified and intrinsic reasons for engaging in the conversation.

Third, we examined the relation of maternal separation anxiety with specific autonomy-supportive and controlling behaviors. As can be seen in Table 2, and consistent with our hypotheses, separation anxiety yielded negative associations with most of the observed autonomy-supportive behaviors and positive associations with almost all of the observed controlling parenting behaviors. Regarding autonomy support, five out of the eight correlations were significant and one correlation was marginally significant.

Table 2 Correlations between separation anxiety and the 17 specific items of observed autonomy support and control

	Separation anxiety
Autonomy-supportive behaviors	
Choice of conversation topic	−0.26*
Reflective listening	−0.29*
Recognizing emotional state	−0.15
Asking experience questions	−0.29*
Authentic interest	−0.28*
Recapitulate disclosure	−0.22†
Display of empathic understanding	−0.04
Awaiting disclosure	−0.33*
Controlling behaviors	
Closed questioning	0.44***
Using controlling language	0.39**
Commanding	0.26*
Unsolicited advising or lecturing	0.40**
Showing disappointment and guilt-induction	0.34**
Criticizing and expressing disapproval	0.24†
Interrupting	0.22†
Intrusive questioning and mistrust	0.24†
Predominant parental talking	0.44***

Note †$p < 0.10$ *$p < 0.05$ **$p < 0.01$ ***$p < 0.001$

Specifically, mothers who report high separation anxiety were observed to provide less choice to their adolescent regarding conversation topic, to make less use of reflective listening, to display less authentic interest, to ask fewer experience-related questions and to be less patient regarding adolescents' disclosure. Regarding controlling behaviors, six out of nine items were significant and three correlations were marginally significant. Specifically, mothers high on separation anxiety use more closed questioning, controlling language, commanding, unsolicited advising or lecturing, and/or disappointment and guilt-induction. Finally, we also observed more predominant parental talking in mothers high on separation anxiety.

Discussion

There is a paucity of research investigating the repercussions of parents' feelings about separation from their adolescents on parents' way of communicating with their adolescents (Hock et al. 2001). The few studies available relied on self-report questionnaires of communication style, thus yielding limited insight in the specific way parental separation anxiety plays out in parent–adolescent communication. This paucity of research is somewhat surprising as adolescence is a time when not only adolescents but also parents face important challenges related to the separation-individuation process (Cooper and Grotevant 2011; Youniss and Smollar 1985). This study examined the role of maternal separation anxiety in mothers' personal experiences and their use of an autonomy-supportive, relative to a controlling, conversation style during a mother–adolescent conversation about a topic that might be perceived as a threat to the mother–child bond, that is, adolescents' friendship affiliations.

The first and central aim of this study was to examine the relation between mothers' separation-anxious orientation and the communication style with their child. As expected, mothers high on separation anxiety were observed to engage in more controlling and less autonomy-supportive parenting behaviors during the conversation. This finding is consistent with the argument that intrapersonal pressure (i.e., pressure stemming from parents' own functioning) may make parents more vulnerable for the use of control and less sensitive for the support of their adolescent's need for autonomy (Belsky 1984; Grolnick and Apostoleris 2002). Mothers high on separation anxiety may feel pressured from within to keep their child within physical and emotional proximity. Driven by feelings of anxiety, they may turn—either impulsively or deliberately—to the use of controlling parenting strategies to achieve their desired goal, that is, avoiding abandonment and rejection by their adolescent child. Unfortunately, in doing so, mothers high on separation anxiety seem to adopt a rather intrusive and clinging style, thereby manipulating their love and care in exchange for signs of loyalty and closeness of their child (Soenens et al. 2010).

The findings of this study converge with findings from previous questionnaire-based studies showing a robust association between parental separation anxiety and controlling parenting (Kins et al. 2011; Soenens et al. 2006; Soenens et al. 2010). However, it is the first time that mothers' autonomy support is addressed next to their degree of control in relation with maternal separation anxiety. Moreover, our study adds to this literature by relying on an observational measure of mothers' conversation style. Such a measure helps to avoid problems associated with retrospective bias and social desirability and provides a more objective and detailed picture of mothers' behavior when interacting with their child.

When investigating the link between separation anxiety and each of these specific autonomy-supportive and controlling behaviors, most associations turned out to be significant or at least marginally significant. The parenting practices that were not significantly linked with maternal separation anxiety were "recognizing emotional state" and "empathic understanding". Both practices concern maternal behaviors that share features with parental responsiveness and warmth. These findings seem to suggest that, although mothers high on separation anxiety are less autonomy—

supportive and more controlling, separation anxiety does not necessarily undermine parental warmth and responsiveness. This finding is consistent with previous research showing a significant link between attachment anxiety (which is characterized by heightened separation anxiety) and intrusive parenting whereas the link with parental responsiveness is non-significant (Adam et al. 2004; Brenning et al. 2012). This finding also meshes with previous research demonstrating that parents who use a pressuring style to enforce dependency in adolescents are not necessarily low on involvement (Soenens et al. 2010). Thus, it seems that mothers high on separation anxiety are more meddlesome and intrusive but not necessarily cold and aloof. Some of these mothers may even be high on warmth and involvement. Note that the presence of warmth and involvement does not necessarily buffer against the deleterious effect of a controlling parental style on adolescents' development. In fact, there is some evidence that parental warmth and involvement exacerbate effects of a controlling style on children's development, an effect that might be accounted for by loyalty conflicts experienced by children exposed to this combination of parenting practices (Aunola and Nurmi 2005; Kanat-Maymon and Assor 2010). Future research could further examine the role of parental separation anxiety in both controlling and warm parenting and address the consequences of the interplay between both parenting dimensions for adolescents' psychosocial functioning.

Indeed, the finding that maternal separation anxiety is related to an autonomy-suppressing and controlling conversation style suggests that parental separation anxiety may ultimately affect adolescents' experiences and psychosocial development. An autonomy-suppressing parenting dimension is known to predict detrimental emotional and behavioral outcomes in adolescents (Grolnick and Pomerantz 2009; Soenens and Vansteenkiste 2010). Specifically in the context of parent–adolescent conversations, it has been shown that autonomy-suppressing parenting is related to less adolescent disclosure and decreased quality of affect experienced by the conversation partners (Mauras et al. 2013; Poulin et al. 2012; Roth et al. 2009). As such, our findings suggest that, although mothers high on separation anxiety may engage in various efforts to make their adolescent depend on them, ironically such efforts may backfire. That is, adolescents may have ambivalent feelings towards their separation-anxious mother: they would be inclined to stay in close contact with her to avoid guilt-trips but at the same time feel internally conflicted to do. Such enforced proximity may not only come with an emotional cost, but—when lasting for a longer period—may even lead the adolescent to increase (rather than decrease) parent-adolescent distance. Indeed, controlling parenting has been found to predict adolescent defiance against parental authority (Van Petegem et al. 2015). Consequently, parental separation anxiety and the use of autonomy-inhibiting parenting associated with this is likely to hinder adolescents' healthy separation over time (Mayseless and Scharf 2009; Ponappa et al. 2014).

The second aim of the present study involved examining how mothers high on separation anxiety would experience a conversation with their child about friendship. As hypothesized, mothers with higher levels of separation anxiety generally experienced the conversation as more stressful: they reported more pressured or controlled (i.e., external and introjected) reasons for engaging in the conversation to begin with; they felt more tense during the conversation; and, finally, once the conversation was over, they felt more relieved. Notably, separation anxiety was unrelated to autonomous (i.e. identified or intrinsic) reasons to participate in the conversation, suggesting that mothers high on separation anxiety do not derive less pleasure or value from engaging in these conversations. Taken together, although mothers high on separation anxiety did not experience the conversation to be less enjoyable or valuable, they perceived the conversation more easily as a daunting duty, that is as an obligatory task they felt tense about.

Such findings are consistent with our hypothesis that, for parents high on separation anxiety, talking about the topic of peer relations and friendships constitutes a threat and a source of stress. The results are in line with research in adult romantic couples indicating elevated stress responses among anxiously attached individuals who are confronted with a situation of separation (e.g., Feeney and Kirkpatrick 1996; Mikulincer and Shaver 2003). An interesting avenue for future research is to examine associations between maternal separation anxiety and mothers' attachment representations. Possibly, maternal separation anxiety plays an important role in the intergenerational transmission of attachment and of anxious attachment in particular.

Limitations and Future Research

The current research has some limitations. First, we focused on mothers only, thereby neglecting the potential role of separation anxiety in fathers. Although recent research indicates that separation anxiety is especially salient in the mother–adolescent relationship (Kins et al. 2013), other research has demonstrated the unique detrimental effects of paternal, in addition to maternal, separation anxiety on relationship quality and adolescent well-being (i.e., Hock et al. 2001; Soenens et al. 2006).

Second, due to the cross-sectional nature of our study, we were unable to examine reciprocal processes between mothers and adolescents. It is possible that mothers and adolescents have a mutually reinforcing effect on each other in terms of separation anxiety. Although a recent social

relations model study by Kins et al. (2013) did not provide evidence for reciprocal processes, there is a need for short-term longitudinal studies and diary studies to examine in greater depth the possibility of bidirectional associations between mothers and adolescents.

Third, one may raise concerns about the generalizability of our study. With respect to our sample, the mother–adolescent dyads who decided to participate in the study might not fully represent the broader population. Indeed, our sample was relatively highly educated, and most adolescents were female. Furthermore, although the descriptive statistics of maternal separation anxiety in the present study were similar to those of other studies with larger, relatively unselective groups of participating mothers (e.g., Kins et al. 2011; Soenens et al. 2010), the present findings might be influenced by a bias in sampling. Hence, future research should rely on more heterogeneous and representative samples (e.g., Bornstein et al. 2013). Finally, future research needs to examine whether the heightened susceptibility for experiencing stress and for relying on a controlling conversation style among mothers high on separation anxiety also applies when mothers–adolescent dyads are asked to talk about different topics.

Author contributions D.W. designed and executed the study, performed the data analyses, and wrote the paper. B.S. and M.V. collaborated with the design, data analyses and writing of the study. S.V.P. and K.B collaborated with the writing of the manuscript and editing of the final manuscript.

Conflict of interest The authors declare that they have no competing interests.

Ethical approval All procedures performed involving human participants in this study were in accordance with the ethical standards of the Ghent University Institutional Review Board and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consents were obtained from all participants included in the study.

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