

Helping or Hovering? The Effects of Helicopter Parenting on College Students' Well-Being

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Abstract Parental involvement is related to many positive child outcomes, but if not developmentally appropriate, it can be associated with higher levels of child anxiety and depression. Few studies have examined the effects of over-controlling parenting, or “helicopter parenting,” in college students. Some studies have found that college students of over-controlling parents report feeling less satisfied with family life and have lower levels of psychological well-being. This study examined self-determination theory as the potential underlying mechanism explaining this relationship. College students ($N = 297$) completed measures of helicopter parenting, autonomy supportive parenting, depression, anxiety, satisfaction with life, and basic psychological needs satisfaction. Students who reported having over-controlling parents reported significantly higher levels of depression and less satisfaction with life. Furthermore, the negative effects of helicopter parenting on college students' well-being were largely explained by the perceived violation of students' basic psychological needs for autonomy and competence.

Keywords Helicopter parenting · Depression · Satisfaction with life · Basic psychological needs · Self-determination theory

Introduction

Recently, several books have raised awareness and concern about parental over-involvement that may lead to negative

outcomes in children (Bronson and Merryman 2009; Hofer and Moore 2010; Levine 2006; Marano 2008; Nelson 2010). Specifically, these authors discuss how having over-involved parents may be related to higher levels of depression and anxiety as well as less perseverance in children (Gibbs 2009; Levine 2006; Marano 2008). This literature has also suggested that children of over-involved or over-controlling parents may feel less competent and less able to manage life and its stressors (Bronson and Merryman 2009; Gibbs 2009; Hofer and Moore 2010; Marano 2008).

In contrast to warnings about the dangers of over-parenting, the child development literature is replete with evidence that parental involvement in children's lives facilitates healthy development (Combs-Orme et al. 2003; Day and Padilla-Walker 2009; Joussemet et al. 2008; Pomerantz et al. 2007). Young children whose parents are highly involved in their lives and provide developmentally appropriate structure have better academic (Fan and Chen 2001; Pomerantz et al. 2007), emotional (Cicchetti and Toth 1998), and social outcomes (Grolnick and Ryan 1989) including more positive peer relationships (Barber et al. 1994) and fewer behavior problems at school (Grolnick and Ryan 1989). Additionally, high levels of maternal involvement have been associated with more prosocial behaviors and hope among adolescents (Day and Padilla-Walker 2009).

On the other hand, some research has suggested that too much parental involvement may lead to negative child outcomes. Children of over-involved mothers have been found to exhibit higher levels of internalizing problems than other children (Barber et al. 1994; Bayer et al. 2006; Fischer et al. 2007), even after controlling for maternal anxiety (Gar and Hudson 2008). High parental involvement may be particularly detrimental to the psychosocial adjustment of children as they enter adolescence (Grolnick et al. 2000) and has been

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linked to externalizing problems, such as “acting out” at school (Grolnick et al. 2000).

Ultimately, it is likely that the type, rather than the amount, of parental involvement is crucial in determining child outcomes. Although good behavioral control is generally associated with positive child outcomes (Barber et al. 1994), psychological control (e.g., inducing guilt or withholding love) may be particularly damaging (Aunola and Nurmi 2005; Barber et al. 1994; De Kemp et al. 2006). Psychological control has been associated with externalizing problems in young children (Aunola and Nurmi 2005) as well as internalizing problems such as depression and anxiety among adolescents (Barber et al. 1994).

In contrast to control, parenting that is supportive of a child’s autonomy may be particularly beneficial to children (Grolnick and Ryan 1989; Kenney-Benson and Pomerantz 2005). Autonomy supportive parents allow children to take an active role in solving their own problems (Grolnick et al. 1991). Research has demonstrated that autonomy supportive parenting leads to better social and emotional adjustment in children, including less anxiety, less depression, and fewer behavior problems (Grolnick and Ryan 1989; Kenney-Benson and Pomerantz 2005). Autonomy supportive parenting may benefit children’s well-being by fostering a sense of autonomy, which is considered one of the basic psychological needs according to Deci and Ryan’s self-determination theory (Deci and Ryan 2008; Ryan and Deci 2000; Soenens et al. 2007).

Helicopter Parenting

Children’s need for autonomy increases over time as they strive to become independent young adults. Parents should adjust their level of involvement and control to their child’s developmental level (Erikson 1968; Kins et al. 2009; Luyckx et al. 2009; Soenens et al. 2007). There is a growing concern among college administrators that parents do not make this adjustment and attempt to control their college-aged children; for example, some parents speak to college administrators on behalf of their adult children (Hunt 2008; Somers and Settle 2010). This phenomenon has been referred to as “helicopter parenting” (Cline and Fay 1990) and has been assumed to be detrimental to college students (Hofer and Moore 2010). Nevertheless, there has been very little research done to objectively measure the effects of helicopter parenting on college students, so its impact is unclear. Some studies have found that college-aged students who reported having highly involved parents were more engaged in and satisfied with college, but had lower grades than those with less involved parents (Shoup et al. 2009). In addition, college students with highly involved parents reported greater personal competence and increased personal and social

development (Shoup et al. 2009) as well as better satisfaction with life and psychological adjustment (Fingerman et al. 2012). However, these studies did not differentiate between the amount of parental involvement and the type of involvement (i.e., controlling versus autonomy supportive).

Three recent studies specifically examined helicopter parenting and found that it was related to several negative outcomes in college students (LeMoyne and Buchanan 2011; Padilla-Walker and Nelson 2012; Segrin et al. 2012). College students who reported that their parents were over-involved and controlling in their lives had lower psychological well-being and were more likely to take medications for depression and anxiety (LeMoyne and Buchanan 2011). Another study found that parents of college students who reported that they were overly involved in their children’s lives had children with lower levels of satisfaction with their family life (Segrin et al. 2012). In contrast, Padilla-Walker and Nelson (2012) found that when children reported that their parents engaged in helicopter parenting, they described their parents as involved and emotionally supportive; although, they also felt that their parents did not grant them sufficient autonomy support.

Self-Determination Theory

It has been suggested that the most parsimonious explanation for why psychologically controlling parenting leads to negative outcomes is that this type of parenting may violate the basic psychological needs conceptualized through self-determination theory (Deci and Ryan 2008; Ryan and Deci 2000; Soenens and Vansteenkiste 2010). Self-determination theory outlines three needs that are innate in all human beings and are necessary for healthy development and functioning (Deci and Ryan 2008; Ryan and Deci 2000). The first and most important component of self-determination theory is the basic need for autonomy, or feeling free to make one’s own choices (Deci and Ryan 2008). The second component is the basic need for competence, or feeling confident in one’s abilities and accomplishments (Deci and Ryan 2008). The third component, relatedness, involves feeling that one is part of genuinely caring relationships (Deci and Ryan 2008). When these basic psychological needs are met, a person experiences greater life satisfaction (Meyer et al. 2007) and lower levels of depression (Wei et al. 2005). If parents are over-controlling, it may reduce their child’s sense of autonomy and competence and undermine their relationship with their child.

The Present Study

The primary goal of this study was to examine how parenting behaviors (i.e., helicopter versus autonomy supportive)

affect the psychological well-being of children through their impact on the self-determination of college students. Given that the studies of helicopter parenting reviewed previously were not published when this project commenced, we developed a new measure of helicopter and autonomy supportive parenting behaviors relevant to college students. As a first step, we examined whether helicopter and autonomy supportive parenting behaviors were related to mental health outcomes. We hypothesized that college students' perceptions of their parents engaging in helicopter parenting behaviors would be related to higher levels of depression and anxiety (LeMoyné and Buchanan 2011) as well as decreased satisfaction with life (Segrin et al. 2012). Prior research on self-determination theory has found that decreased autonomy, competence, and relatedness are associated with similar outcomes including decreased well-being (Wei et al. 2005) and satisfaction with life (Meyer et al. 2007). Therefore, we hypothesized that the relationship between parenting behaviors and psychological outcomes would be best understood through a model in which helicopter parenting would interfere with the basic psychological needs of autonomy, competence, and relatedness, which would adversely affect the mental health outcomes of college students (see Fig. 1). In contrast to helicopter parenting, we hypothesized that autonomy supportive parenting would increase well-being and satisfaction with life (Grolnick and Ryan 1989; Kenney-Benson and Pomerantz 2005) by enhancing a sense of autonomy, relatedness, and competence (Soenens and Vansteenkiste 2010).

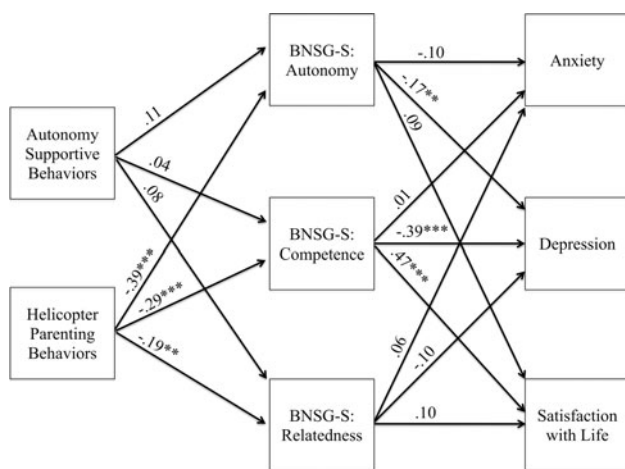


Fig. 1 Results from the test of the hypothesized path model, $\chi^2(6) = 12.62, p = .05$; CFI = .99; RMSEA = .06; SRMR = .02. Standardized path coefficients are reported. Residuals among the BNSG-S variables and the outcome variables were allowed to correlate. * $p < .05$, ** $p < .01$, *** $p < .001$

Method

Participants

The present study surveyed 297 college undergraduates in a public liberal arts college in the Mid-Atlantic region of the United States. Our participants included 12 % men and 88 % women between the ages of 18 and 23, ($M = 19.34, SD = 1.27$). The majority of participants identified themselves as White (84.8 %), followed by 4.1 % Black, 3.8 % Asian or Pacific Islander, and 7.1 % who identified as “other.” Additionally, some undergraduates (4.4 %) indicated that they were also of Spanish or Hispanic origin. Most of the sample consisted of first year undergraduates (51.2 %), and also included 13.1 % second years, 20.2 % third years, 13.5 % fourth years, and 2 % fifth year or more.

Procedure

Most participants were recruited from the General Psychology participant pool at the university and received course credit for their participation. These students completed an online survey in a group setting at the university computer lab with a researcher present. Other undergraduates were recruited from upper level psychology classes and completed the survey on their own as one option for earning extra credit in their class. Additional participants were recruited through snowball sampling from a link to the survey posted on a social networking site. In all cases, it was specified that participants must be current college students and be able to answer questions about their mothers' current parenting behaviors.

Materials

Helicopter Parenting and Autonomy Supportive Behaviors

The researchers consulted relevant books to generate 20 behaviors that have been associated with helicopter parenting in the literature (Bronson and Merryman 2009; Hofer and Moore 2010; Hunt 2008; Levine 2006; Marano 2008; Somers and Settle 2010). An additional seven items assessing behaviors associated with autonomy supportive parenting were generated to contrast controlling behaviors from these books, and also were based on reports of autonomy supportive behaviors in the literature (Pomerantz et al. 2007). In this questionnaire, students rated the extent to which they agreed with the statements on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) concerning their mother's parenting behaviors. Helicopter parenting behavior statements (e.g., “My mother regularly wants me to call or

text her to let her know where I am”) and autonomy supportive statements (e.g., “My mother encourages me to keep a budget and manage my own finances”) were intermixed randomly in this questionnaire (see [Appendix](#)). We chose to specifically measure perceptions of mothers’ behaviors because it is the mother that has been discussed as the parent most likely to be overly involved in their adult child’s life (Bronson and Merryman 2009; Hofer and Moore 2010; Hunt 2008; Levine 2006; Marano 2008; Somers and Settle 2010).

Basic Needs Satisfaction in General Scale (BNSG-S)

The 21-item BNSG-S was used to measure students’ perceptions of their autonomy, competence, and relatedness (Deci and Ryan n.d.). Students were asked to read statements and indicate how much a statement described them on a scale from 1 (*not at all*) to 7 (*very true*). This measure contains three subscales: Autonomy (e.g., “I feel like I am free to decide for myself how to live my life”), Competence (e.g., “Most days I feel a sense of accomplishment from what I do”), and Relatedness (e.g., “I get along with people I come into contact with”) (Deci and Ryan n.d.; Johnston and Finney 2010). As reported by Johnston and Finney (2010), the internal consistencies of the subscales are as follows: Autonomy ($\alpha = .61-.81$), Competence ($\alpha = .60-.86$), and Relatedness ($\alpha = .61-.90$). In our sample, Cronbach’s alphas were .70 for Autonomy, .65 for Competence, and .79 for Relatedness.

Satisfaction with Life Scale (SWLS)

In order to measure participants’ overall life satisfaction, students completed the SWLS (Diener et al. 1985). This scale consists of five statements of satisfaction, such as, “The conditions of my life are excellent,” on a scale of 1 (*not at all true*) to 7 (*absolutely true*). The SWLS has been found to have an internal reliability of .87 (Pavot and Diener 1993). In the present sample, Cronbach’s alpha was .86.

Center for Epidemiologic Studies Depression Scale (CES-D)

Students completed the 20-item CES-D, which assesses depressive symptoms in non-clinical populations (Radloff 1977). Students were asked to read several statements associated with depression (e.g., “I felt hopeless about the future”) and rate how frequently they have felt these depressive symptoms over the past week on a scale from 0 (*rarely or none of the time, <1 day*) to 3 (*most or all of the time, 5–7 days*). The Cronbach’s alpha for this measure was .85 in the original investigation (Radloff 1977). In this sample, the Cronbach’s alpha was .94.

Anxiety Subscale of the Hospital Anxiety and Depression scale (HAD)

The seven-item anxiety subscale of the HAD scale was used to measure a general state of anxiety experienced by students (Zigmond and Snaith 1983). They rated how often a statement characterized them, such as “Worrying thoughts go through my mind,” on a scale from 0 (*very often*) to 3 (*not at all*). The reported Cronbach’s alpha for the anxiety subscale has been reported as .83 (Zigmond and Snaith 1983). In the current sample, Cronbach’s alpha for the Anxiety subscale was also .83.

Results

An exploratory factor analysis (EFA) was conducted using principal components analysis with varimax rotation to test the factor structure of the 27-item measure of helicopter parenting and autonomy supportive behaviors. This solution produced seven factors with eigenvalues over one, but examination of the scree plot indicated that a two factor solution would be most appropriate. We conducted a second EFA forcing a two-factor solution consistent with the conceptualization of the measure. We retained items that had primary factor loadings above .50 and no cross-loadings greater than or equal to .32 based on recommendations for best practices in exploratory factor analysis (Costell and Osborne 2005; Tabachnick and Fidell 2007). The first factor (eigenvalue = 5.61), Helicopter Parenting Behaviors, accounted for 20.77 % of the variance and was comprised of nine items. The second factor (eigenvalue = 2.63), Autonomy Supportive Parenting Behaviors, had six items and accounted for 9.73 % of the variance. Factor loadings and cross-loadings for each item are presented in [Table 1](#).

The nine items loading on the first factor, Helicopter Parenting Behaviors, had acceptable internal consistency with a Cronbach’s alpha of .77. The average score was 2.00 ($SD = 0.79$), and scores ranged from 1 to 5.44. Cronbach’s alpha for the six items loading on factor two, Autonomy Supportive Parenting Behaviors, was .71 with scores ranging from 1 to 6 ($M = 4.46$, $SD = 0.98$). All items were measured on a six-point scale with higher scores indicating more agreement. The distribution of responses on both scales appeared to be normal based on skewness and kurtosis values.

The means, standard deviations, and ranges for participants’ scores for all measures can be found in [Table 2](#). Participants reported moderate levels of depression and anxiety. A little over a third (42.6 %) of the participants indicated having mild to significant depressive symptoms on the CES-D as indicated by a score of 16 or above

Table 1 Factor loadings for EFA for the helicopter parenting and autonomy supportive behaviors

Item	Factor 1	Factor 2
My mother monitors who I spend time with	.71	-.03
My mother calls me to track my schoolwork (i.e. how I'm doing in school, what my grades are like, etc.)	.62	.23
My mother regularly wants me to call or text her to let her know where I am	.57	.18
If I am having an issue with my roommate, my mother would try to intervene	.57	-.09
My mother had/will have a say in what major I chose/will choose	.57	.14
My mother monitors my exercise schedule	.56	.07
My mother monitors my diet	.55	-.02
If I were to receive a low grade that I felt was unfair, my mother would call the professor	.53	.05
When I am home with my mother, I have a curfew (a certain time that I must be home by every night)	.50	.05
My mother would be upset if I got a piercing or tattoo	.49	.04
My mother helps me register for college classes	.48	.22
My mother visits me at college more often than I would like	.46	-.14
My mother accompanies me to doctor or dentist appointments	.44	.24
My mother had a large influence on where I chose to college	.42	.18
My mother manages my bank account	.42	.27
If I don't promptly respond to a call or text from my mother, she worries about my well-being	.40	.11
My mother created a Facebook account mainly to stay up to date with my life	.39	.04
My mother cleans my dorm room (or apartment) when she visits	.39	-.09
My mother does my laundry when I come home	.38	.12
My mother takes care of basic maintenance of my car (car wash, oil change, tire rotation, annual inspections, etc.)	.36	.30
My mother encourages me to make my own decisions and take the responsibility for the choices I have made	-.18	.73
My mother encourages me to keep a budget and manage my own finances	.02	.63
My mother encourages me to choose my own classes	-.29	.62
My mother encourages me to deal with any interpersonal problems between myself and my roommate or my friends on my own	.09	.58
My mother encourages me to discuss any academic problems I am having with my professor	.30	.57
My mother has given me tips on how to shop for groceries economically	.26	.54
My mother has instructed me on how to properly care for a car	.14	.49

Bolded items were retained in the final measures

Table 2 Means, SD, and ranges for measured variables

Measures	<i>M (SD)</i>	Possible range	Actual range
Helicopter parenting	2.00 (0.79)	1.00–6.00	1.00–5.44
Autonomy support	4.46 (0.98)	1.00–6.00	1.00–6.00
Depression	16.48 (12.45)	0.00–60.00	0.00–56.00
Anxiety	10.57 (3.93)	0.00–21.00	2.00–21.00
Satisfaction with life	23.77 (6.69)	5.00–35.00	5.00–35.00
BNSG-S autonomy	5.09 (0.89)	1.00–7.00	1.43–7.00
BNSG-S competence	5.07 (0.98)	1.00–7.00	2.20–7.00
BNSG-S relatedness	5.61 (0.86)	1.00–7.00	2.25–7.00

(Radloff 1977). Correlations among measured variables can be found in Table 3. Helicopter parenting behaviors were positively correlated with autonomy supportive behaviors and depression. They were negatively correlated with all three subscales of the BNSG-S, such that reporting

more helicopter parenting behaviors was related to lower levels of autonomy, competence, and relatedness. Autonomy supportive behaviors did not have a significant relationship with any of the BNSG-S subscales or predicted outcomes.

Path analysis using maximum likelihood estimation using M-plus version 6.12 (Muthén and Muthén 1998–2010) was employed to test our hypothesis that parenting behaviors would be indirectly related to college students' mental health outcomes through their impact on students' basic psychological needs (see Fig. 1). In this model, autonomy supportive behaviors and helicopter parenting behaviors led to autonomy, competence, and relatedness as assessed by the BNSG-S, which, in turn, led to the outcomes of anxiety, depression, and life satisfaction. The residuals of the three subscales of the BNSG-S were allowed to correlate as they are theoretically interrelated (Ryan and Deci 2000) as were the residuals of the three

Table 3 Summary of bivariate correlations among measured variables

	1	2	3	4	5	6	7	8
1. Helicopter Behaviors	–							
2. Autonomy Support	.20***	–						
3. Depression	.27***	.06	–					
4. Anxiety	.04	.07	.11	–				
5. Satisfaction with Life	–.19***	.10	–.48***	–.08	–			
6. BNSG-S Autonomy	–.37***	.02	–.49***	–.07	.46***	–		
7. BNSG-S Competence	–.29***	–.02	–.56***	–.03	.59***	.67***	–	
8. BNSG-S Relatedness	–.17**	.04	–.41***	.01	.42***	.56***	.55***	–

$n = 292$; * $p < .05$; ** $p < .01$; *** $p < .001$

outcome variables. The model was a good fit to the data, $\chi^2(6) = 12.62$, $p = .05$; CFI = .99; RMSEA = .06; SRMR = .02, but none of the paths from autonomy supportive behaviors nor the paths to anxiety were significant.

Favoring parsimony, we tested a simplified model where autonomy supportive behaviors and anxiety were removed from the model (see Fig. 2). This model also demonstrated good fit to the data, $\chi^2(2) = 3.79$, $p = .15$; CFI = 1.00; RMSEA = .06; SRMR = .02. Helicopter parenting was related to lower feelings of autonomy, competence, and relatedness. A lower sense of autonomy and competence was related to depression. Life satisfaction was only predicted by having a higher level of competence. Once again, the residuals of the BNSG-S subscales were allowed to correlate, and autonomy was positively correlated with both competence ($r = .63$, $p < .001$) and relatedness ($r = .54$, $p < .001$), and competence was also positively correlated with relatedness ($r = .53$, $p < .001$). We also allowed the residuals of the two outcomes (i.e., depression and life

satisfaction) to correlate ($r = -.19$, $p = .001$). We also tested the indirect effects of helicopter parenting behaviors on the outcomes of depression and life satisfaction. Helicopter parenting had significant indirect effects on depression through both autonomy ($z = 2.45$, $p = .01$) and competence ($z = 3.94$, $p < .001$). It also had a significant indirect effect on life satisfaction through competence ($z = -4.29$, $p < .001$).

Discussion

The purpose of this study was to gain further insight into the underlying mechanisms that explain the relationship between helicopter and autonomy supportive parenting and the psychological outcomes of college students. We created a measure of helicopter parenting based on behaviors identified by college administrators as overly involved and inappropriate for the parents of college-aged students (Hofer and Moore 2010; Hunt 2008; Somers and Settle 2010). Our measure focused on student report of parental actions that either were designed to control their college-aged children's behaviors (e.g., My mother monitors who I spend time with) or act on their behalf (e.g., If I were to receive a low grade that I felt was unfair, my mother would call the professor). Thus, our measure of helicopter parenting behaviors appears to reliably capture the construct of behavioral control from the literature.

Prior research has suggested that behavioral control can be associated with positive outcomes (e.g., fewer externalizing behaviors), while psychological control is associated with negative outcomes (e.g., anxiety and depression) in young children (Barber et al. 1994; Soenens and Vansteenkiste 2010). However, the level of behavioral control reflected in our measure of helicopter behaviors may not be developmentally appropriate for college-aged students. Furthermore, Soenens and Vansteenkiste (2010) suggested that some types of behavioral control (e.g., household rules that are too strict for a child's age) can be experienced

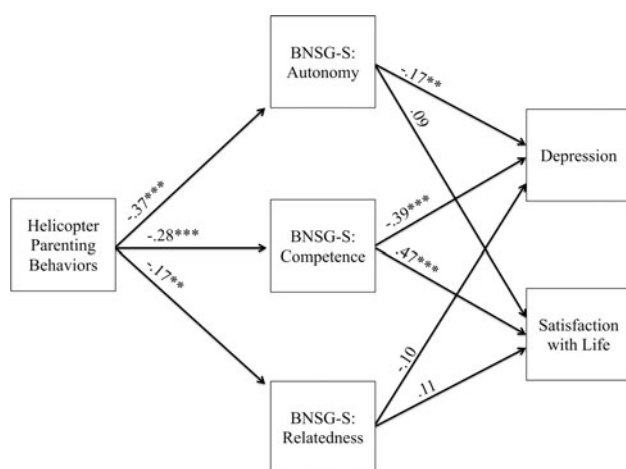


Fig. 2 Results from the test of the simplified path model, $\chi^2(2) = 3.79$, $p = .15$; CFI = 1.00; RMSEA = .06; SRMR = .02. Standardized path coefficients are reported. Residuals among the BNSG-S variables and the outcome variables were allowed to correlate. * $p < .05$, ** $p < .01$, *** $p < .001$

as psychologically controlling (e.g., child feels guilty for disappointing the parent). Thus, the negative effects associated with psychological control may also be found in association with developmentally inappropriate behavioral control (Soenens and Vansteenkiste 2010).

Consistent with this idea, our data suggest that an inappropriate level of parental behavioral control is associated with negative child outcomes. Specifically, we found that helicopter parenting behaviors were related to higher levels of depression and decreased satisfaction with life. Our results extend previous research that found increased use of prescription drugs for depression among college students who reported helicopter parenting (LeMoyne and Buchanan 2011). In contrast to the results from the LeMoyne and Buchanan (2011) study, we did not find a relationship between helicopter behaviors and increased anxiety.

Our items measuring autonomy supportive parenting were not related to the basic nutrients of self-determination theory or any of the outcome measures. However, they were positively correlated with the helicopter parenting behavior measure. Soenens and Vansteenkiste (2010) suggest that there may be an orthogonal relationship between the dimensions of independence/dependence and autonomy/control. In other words, behaviors that encourage independence may or may not be perceived as encouraging autonomy (i.e., volitional choice). The subtle differences between promoting independence and promoting autonomy are complex. It is possible for parents who intend to promote autonomy to actually be forcing their child toward independence when the child desires more guidance and support. Furthermore, parents who attempt to promote independence, but do so in a controlling manner, might be perceived as nagging. For example, one of our autonomy support items involves parents encouraging students to discuss academic problems with their professor. While this response grants students more independence than if the parent called the professor, it might be perceived as unsupportive or even controlling (i.e., telling the child what to do). This could actually decrease a personal sense of autonomy according to self-determination theory (Soenens and Vansteenkiste 2010). Although our measure was intended to assess autonomy support, students may have interpreted their parents' behaviors as promoting independence rather than autonomy per se. Future research should take into account the fact that independence/dependence may be a separate dimension from autonomy/control and develop items to reflect both dimensions.

While our overall hypothesized model did provide good fit to the data, at a core level, we only received partial support for this model as neither paths from autonomy supportive behaviors nor paths to anxiety were statistically significant. However, our hypothesis that the relationship between helicopter parenting behavior and psychological outcomes

would best be explained as indirect effects of the violation of the basic needs of autonomy, competence, and relatedness was supported by tests of both the initial hypothesized model as well as the simplified model with autonomy supportive behaviors and anxiety removed. Helicopter behaviors were associated with lower levels of perceived autonomy, competence, and relatedness. Lower levels of competence were related to higher levels of depression and lower levels of satisfaction with life. Additionally, lower perceived autonomy was associated with more depression. More specifically, helicopter behaviors were shown to have significant indirect effects on both depression and life satisfaction through competence as well as an indirect effect on depression through autonomy. These data support the contention of Soenens and Vansteenkiste (2010) that the basic nutrients of self-determination theory can explain the detrimental effects of parental control on well-being.

Students who feel as if they are being "helicoptered" also feel that their basic psychological needs are not being met. When parents engage in controlling behaviors, students' sense of personal autonomy may be diminished. Feeling a lack of volition and control can lead to depression (Deci and Ryan 2008; Ryan and Deci 2000). Helicopter parenting behaviors may also interfere with feeling a sense of competence because such parental actions can convey the message that parents do not have faith in their child's abilities. Furthermore, when parents solve problems for their children, then children may not develop the confidence and competence to solve their own problems. For example, parents who call their college student's professor send a (likely unintentional) message that they do not believe their child can handle the issue on his/her own. Our data suggest that a sense of competence may be the basic nutrient most essential to well-being.

Relatedness, although not associated with negative psychological outcomes in the model, was found to be lower in individuals who reported having parents who practiced helicopter behaviors. This finding is interesting because helicopter parents are, by their very nature, intensely involved in the lives of their children. Involvement seems, intuitively, as if it would enhance relatedness, and some research has found that helicopter parenting is associated with the perception that parents provide guidance and emotional support (Padilla-Walker and Nelson 2012). However, our data were consistent with Segrin et al. (2012) who found that "over-parenting" was related to decreased satisfaction with family life. Intense and intrusive involvement that strips students' sense of autonomy and feelings of competence may lead them to become more psychologically distant from their parents.

Although competence was the variable that was most strongly related to mental health, it should be noted that our measure of perceived competence had a minimally acceptable reliability (DeVellis 1991). Low reliability typically

attenuates relationships, so the fact that strong relationships were found despite the low reliability can be taken as an indication of the importance of competence in predicting well-being (Cohen et al. 2003; Zuckerman et al. 1993). Nevertheless, it may be that the construct of competence is more multifaceted than has been previously understood, and future research should attempt to find ways to measure it more reliably.

The generalizability of the results is limited by the relative homogeneity of the sample. Although helicopter parenting has primarily been described as a phenomenon in relation to middle- to upper-middle class populations similar to this sample (Nelson 2010), the ways in which helicopter parenting behaviors are manifested and perceived in economically and ethnically diverse populations are not fully understood and deserve further research. In addition, our study focused on perceptions of helicopter parenting among the mothers of primarily, female college students. Thus, the generalizability of these data may be more applicable to mother-daughter dyads. The ways in which fathers may be perceived as engaging in these behaviors and their impact on college students should be further investigated. The items in our measure could easily be adjusted as ask about their fathers. Future research should also attempt to recruit more male participants so that the effects of helicopter parenting on sons are better understood.

Our measure has similarities to recently published measures of helicopter parenting (LeMoyné and Buchanan 2011; Padilla-Walker and Nelson 2012). Therefore, future research may wish to use these measures in tandem to determine which items best form a coherent measure and predict relevant outcomes. It would also be informative to compare student report to parent report of helicopter parenting behaviors. Student perceptions may or may not reflect parental perceptions; although our data suggest that student experience of helicopter parenting is an important predictor of their mental health outcomes.

It also should be noted that our data were cross-sectional. Although in our model depression and decreased well-being were conceptualized as outcomes of helicopter parenting, it is also possible that when parents perceive their child as depressed, they may be more likely to “hover.” Longitudinal research would best untangle the causal direction and interactive nature of these variables. Finally, the effects of parental over-involvement on the mental health of the parent is also worthy of further investigation given that parents who perceive their children as needing too much support have been found to have lower satisfaction with life (Fingerman et al. 2012).

Helicopter parenting is a highly involved, intensive, and ‘hands-on’ method of parenting that has been implicated by many as leading to negative outcomes (Bronson and

Merryman 2009; Gibbs 2009; Hofer and Moore 2010; Levine 2006; Marano 2008). Research from the present study indicates that helicopter parenting is predictive of increased levels of depression and decreased satisfaction with life and that this relationship is best explained by reduced autonomy and competence. Our research suggests that parents need to be careful because involvement that they intend to be supportive could actually be perceived as controlling and undermining by their children. The ability to assess a child’s needs and respond accordingly is a key predictor of child outcomes in the developmental literature (Barber et al. 1994; Grolnick and Ryan 1989; Pomerantz et al. 2007). It appears that they continue to be critical parenting skills of college-aged students. Parents might be aided by keeping in mind how developmentally appropriate their involvement is and to adjust it when their children feel that the parent is hovering too closely.

Appendix: Helicopter Parenting Behaviors

Please answer the following questions thinking about your *mother* on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*).

1. My mother had/will have a say in what major I chose/will choose
2. My mother encourages me to discuss any academic problems I am having with my professor
3. My mother monitors my exercise schedule
4. When I am home with my mother, I have a curfew (a certain time that I must be home by every night)
5. My mother has given me tips on how to shop for groceries economically
6. My mother encourages me to make my own decisions and take the responsibility for the choices I have made
7. My mother regularly wants me to call or text her to let her know where I am
8. My mother encourages me to deal with any interpersonal problems between myself and my roommate or my friends on my own
9. If I were to receive a low grade that I felt was unfair, my mother would call the professor
10. My mother monitors my diet
11. My mother monitors who I spend time with
12. My mother encourages me to keep a budget and manage my own finances
13. My mother calls me to track my schoolwork (i.e., how I’m doing in school, what my grades are like, etc.)
14. If I am having an issue with my roommate, my mother would try to intervene
15. My mother encourages me to choose my own classes

Scale coding: Helicopter parenting: 1, 3, 4, 7, 9, 10, 11, 13, 14; Autonomy support: 2, 5, 6, 8, 12, 15

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