An Examination of the Mediatory Role of Resilience in the Relationship Between Helicopter Parenting and Severity of Depressive Symptoms in Irish University Students

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Abstract: Background: Helicopter parenting, a form of over-parenting involving the use of developmentally inappropriate strategies on the offspring, has been associated with depressive symptoms in university students. However, little research has examined the underlying mechanisms of this relationship. Resilience as the process of successful adaptation to adverse circumstances is proposed as a potential mediating factor.

Objectives: This study aimed to determine: (1) if helicopter parenting would predict depressive symptoms in Irish students; (2) if this relationship between helicopter parenting and severity of depressive symptoms was mediated by resilience; and (3) which aspects of resilience were significantly contributing to this mediation.

Method: Data from 208 Irish university students who completed online measures of helicopter parenting, resilience and current depressive symptoms’ severity were analysed.

Results: Perceived helicopter parenting, including perception of over-protection and perception of intrusiveness and control, predicted severity of depressive symptoms. The relationship between perceived helicopter parenting and depressive symptoms was mediated via decreased resilience. Social resources, perception of the self, and perception of the future were the resilience components contributing the most significantly to this relationship mediation.

Conclusion: Future research in emerging adults needs to investigate helicopter parenting as a potential intervention target in the context of growing depression rates in both university students and the population in general. Longitudinal studies that follow children into adolescence and adulthood should seek to comprehensively assess the relationship between helicopter parenting, resilience development and depression.

Keywords: Helicopter parenting, over parenting, resilience, depressive symptoms, university students, young/emerging adults.

1. INTRODUCTION

Depression is the most common mental illnesses worldwide, affecting approximately 350 million people globally, and by 2020 is predicted to be the second highest cause of disability in society (World Health Organisation, 1996; 2015). In recent times, the age of onset appears to be lowering, with young adults being recognised as especially vulnerable (Kessler et al., 2003). One such group is college-aged adults. Michael, Huelsman, Gerard, Gilligan and Gustafson (2006) stipulate that many first episodes of depression occur during the college years, particularly because the risks for psychiatric illness are amplified during this developmental period of transition and adjustment to a novel environment.

Correspondingly, a 4.6% increase in the diagnosis of depression in university students between
1998 and 2008 has been reported by the American College Health Association (Buchanan, 2012). Corroborating this evidence, a large scale survey of college counselling services in the USA found that 95% of the directors surveyed, reported that they believed that the number of students with significant psychological problems was a growing concern on their campus, and 70% reported that the numbers of students seeking counselling had greatly increased in the last year (American Psychiatric Association, 2013). Irish university students too do not appear to be immune from these worrying ongoing trends, with a study by Delaney, Gubbins, Harmon, Redmond and O’Carroll (2009) reporting that 33% of Irish undergraduates and postgraduates were at risk of poor psychological health. Furthermore, using a sample from two Dublin universities, Curran, Gawley, Casey, Gill and Crumlish (2009) found a 13.9% depression prevalence rate.

Thus, with such growing incidence of depressive pathology, it is of little surprise that there has been a call for researchers to consider how their work may contribute to the prevention and intervention of this mental illness (Muñoz, Beardslee & Leykin, 2012). As such, the popular media has been quick to weigh in with opinions on the causes and contributory factors of these trends (Gibbs, 2009) and they have been discussed internationally in countries ranging from England to China (BBC News, 2008; Han & Dong, 2010), with the finger of blame being cast on ineffective parenting. In particular, a parenting style named “helicopter parenting” has been cited as a major contributory factor to the vulnerability of young adults to depression.

2. HELICOPTER PARENTING

Helicopter parenting, first coined in a parenting book series by Cline and Fay (1990) and popularised by a Newsweek article (Zeeman, 1991), has been described as “a form of over-parenting in which parents apply overly involved and developmentally inappropriate tactics to their children” (Segrin, Wosziló, Givertz, Bauer & Murphy, 2012, p. 237). According to these authors, these “hyper-involved” tactics are employed in order to protect offspring from negative outcomes and to ensure success. Helicopter parenting is considered to represent a parenting style that is high in warmth and support but which is also high in control and low in autonomy granting (Padilla-Walker & Nelson, 2012). The popular media is replete with examples of this type of parenting, ranging from parents who: constantly seek to be in communication with their adult children, speak to college administrators on behalf of them, and even fill out job applications for them (Finkel & Fitzsimons, 2013; Marano, 2004; Quinlan, 2016).

However, despite the abounding anecdotes in popular literature about over-parenting, helicopter parenting is a relatively new concept and thus there is little empirical research on the topic (Bradley-Geist & Olson-Buchanan, 2014). For decades, across a range of disciplines, parental involvement has been considered to facilitate healthy development and is associated with positive outcomes (Day & Padilla-Walker, 2009; Ballantine, 1999). For example, children whose parents provide developmentally appropriate structure and who are highly involved in their lives have been found to have: better social and emotional outcomes (Cicchetti & Toth, 1998; El Nokali, Bachman & Votruba-Drzal, 2010; Grolnick & Ryan, 1989), fewer behaviour problems (El Nokali et al., 2010; Grolnick & Ryan, 1989), higher academic achievement (Ballantine, 1999; Fan & Chen, 2001), and decreased alcohol use (Miller-Day & Kam, 2010). It is only in more recent times that it has been considered that too much involvement may have detrimental consequences (Marano, 2004). Consequently, attention has slowly shifted towards the outcomes for children of helicopter parents (Odenweller, Booth-Butterfield & Weber, 2014).

Helicopter parenting has been assessed in a variety of ways. Some studies (Bayer, Sanson & Hemphill, 2006; Gar & Hudson, 2008; Rubin, Nelson, Hastings & Asendorp, 1999) independently rated parent-child interactions for parental over-involvement and engagement in developmentally inappropriate behaviours. Other studies have used child rearing questionnaires to gain insight into parenting styles. For example, Van Ingen et al., (2015) used the over-protection subscale of the Parental Bonding Instrument (Parker, Tupling & Brown, 1979) to assess parental intrusion and excessive contact. Whereas Givertz and Segrin (2014) used the Parental Authority Questionnaire (Buri, 1991) and the Psychological Autonomy vs Psychological Control Scale (Schaefer, 1956b) to assess parental control. Furthermore, other re-
searchers have devised their own scales to measure helicopter parenting. For example, Odenweller et al., (2014) created the Helicopter Parenting Instrument to assess developmentally inappropriate behaviour, whereas Nelson, Hart, Wu, Yang, Roper and Jin (2006) created an 18-item scale to capture over-protection, psychological control, and coercion. Thus, it would appear that these measures are tapping into several different components of helicopter parenting and as such, it may be questioned as to whether previous research has fully captured the construct of helicopter parenting.

Despite potential issues with its measurement, negative outcomes of helicopter parenting are well documented for young children. Research has indicated that children of over-involved parents as young as two years exhibit higher levels of internalizing problems, for example: anxiety, depression, and low self-esteem, than other children (Bayer et al., 2006; Gar & Hudson, 2008; McShane & Hastings, 2009). This type of parenting style has also been associated with child externalizing problems (Grolnick, Kurowski, Dunlop & Hevey, 2000). Additionally, Gibbs (2009) reports that children whose parents were over-involved in their lives were less able to cope with and manage daily life and its stressors. Finally, this parenting style has also been associated with peer difficulties and social withdrawal in school aged children (Nelson et al., 2006; Rubin et al., 1999).

Other studies have examined which factors are related to helicopter parenting in order to identify both those who are more likely to engage in this parenting style and those who are more likely to experience it. Kantrowitz and Tyre (2006) postulate that helicopter parents are of the “baby boomer” generation, well educated, and with many resources available to them, for example: money, connections, time, and negotiating skills. Moreover, mothers and those from upper and middle classes are more likely to engage in helicopter parenting than fathers and those from lower classes (Bradley-Geist & Olson-Buchanan, 2014). Gallo and Gallo (2001) echo these sentiments, stipulating that helicopter parents make child-rearing the focus of their adult lives. Bradley-Geist and Olson-Buchanan (2014) also found in their sample of university students that females, those with fewer siblings, those of Asian heritage, and those who resided with their parents whilst attending college were more likely to be the recipient of helicopter parenting. As this phenomenon has become more understood, focus has turned to the long-term impact and outcomes of helicopter parenting on adult children, particularly college-aged children.

Although thus far this age group has received much less attention than younger children, the studies that have been conducted associate helicopter parenting with a barrage of negative outcomes for college aged adults. Segrin et al., (2012) found that helicopter parenting was related to low levels of family life satisfaction and high levels of entitlement whereas Locke, Campbell and Kavanagh (2012) found an association between it and narcissism. Several studies have reported correlations between this parenting style and low self-efficacy, as well as difficulties with peers (Bradley-Geist & Olson Buchanan, 2014; Givertz & Segrin, 2014; Van Ingen et al., 2015). Helicopter parenting has also been linked with poorer academic achievement, with the National Survey of Student Engagement (2007) reporting that students who experienced it demonstrated lower grade point averages. Worryingly, a study by Le Moyne and Buchanan (2011) found that this parenting style was positively associated with taking prescription medications for depression and anxiety, as well as recreational pain pill use. They also found that helicopter parenting was negatively associated with psychological wellbeing among their student sample. However, to date there has been little attempt to determine the mechanisms by which helicopter parenting may be exerting its negative effects on university students.

To our knowledge, only one study to date has sought to investigate these possible mechanisms. Schiffrin and colleagues (2014) examined the effects of helicopter parenting on college students’ wellbeing. They found that this parenting style was positively correlated with depression and also that helicopter parenting was related to lower levels of autonomy, competence and relatedness. These authors further examined the relationship between helicopter parenting and depression and found that it was partially mediated by low sense of autonomy and competence. Despite this being a step towards understanding the relationship between helicopter parenting and depression amongst university students, the partial mediation suggests that other factors may be at play. One
idea which has received much coverage by the popular press is that helicopter parenting may be linked with reduced levels of resilience. For example, in an article published on Psychology Today, Gray (2015), a psychologist involved in the counselling services of a large American university, posited that students in modern times are displaying declining levels of resilience which he argues may be a result of over parenting and thus is leading to their increased vulnerability to mental illnesses such as depression.

3. RESILIENCE

Although the definition of resilience has yet to be universally agreed upon, it is often referred to as “the successful adaptation or absence of a pathological outcome” following experience with adverse or stressful circumstances or events” (p.1025, Seery, Holman & Cohen-Silver, 2010). Some have conceptualized this ability as a relatively stable personality trait or cluster of traits (Kirkwood, Bond, May, McKeith & Teh, 2014; Roth & Von Collani, 2007) whereas others (Luthor, Cicchetti & Becker, 2000) have argued that restricting resilience to trait-like attributes gives a misguided perception that people are either born with this capacity or not, and ignores the multidynamic nature of this phenomenon. In an attempt to understand and define resilience, Windle (2011) conducted a comprehensive conceptual review leading to its definition as “the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma” (p.163). This author further suggests that resilience consists of many aspects, such as assets and resources within the individual, their life, and their environment that facilitate this ability of adaptation and “bouncing back” in the face of adversity. Thus, this depiction recognises the temporal interaction of personal and environmental factors which contribute to the development of resilience (Masten, 2007; Rutter, 2012).

Regardless of whether it has been conceptualised as a trait-like ability of a more multifaceted capacity, much research has associated higher levels of resilience with positive outcomes in various populations. For example, in Klohen, Vandewater and Young’s (1996) longitudinal study of midlife adjustment among women, resilience, conceptualised as a trait, was found to be negatively related to psychological distress later in life. Evidence has also indicated that resilience may buffer against mental illnesses such as depression. Elliot et al., (2015) found that American war veterans who had higher levels of resilience were less likely to suffer from depression post service than those with lower levels. Additionally, Sharpley, Wooten, Bitisika and Christie (2013) found lower depression rates among cancer patients with higher levels of resilience. Therefore, it appears that resilience may serve as a protective factor against depression in the face of traumatic and stressful experiences.

Resilience has also been conceptualised as a process, and something which can be developed through experience with adverse events (Smith-Osborne & Whitehill-Bolton, 2013). This way of conceptualising it is in line with Windle’s (2011) definition, as it takes into account the multidynamic nature of this phenomenon. As such, resilience in this study is considered as a process. Di Corcia and Tronic (2011) in this way, posit that resilience is a coping capacity which develops from infancy. They stipulate that all individuals, regardless of age, experience stressors to a varying degree, and it is how the individual successful or unsuccessfully regulates these stressors that affect the development of resilience. This idea is in consonance with Dienstbier’s (1989) theory of psychophysiological toughness.

According to this theory, exposure to stressors has a positive “toughening” effect when the exposure is limited, with an opportunity for recovery. This effect is considered to elicit positive appraisals of situations among “tough” individuals and allows them to be better able to cope psychologically and physiologically with difficult stressors and minor challenges compared to non-toughened individuals. For example, Mortimer and Staff (2004) found that, in the face of work stressors, individuals who had experienced prior work stress did not display the negative effects on self-esteem, self-efficacy and depressed mood shown by individuals who had little or no experience with prior work stress. Moreover, Dienstbier (1989) argued that sheltering from all stressors leads to a lack of toughness as it provides no opportunity to develop this “toughness”, and that this sheltering is unlikely to last indefinitely; thus when sheltered individuals encounter stressors they are likely to be ill-equipped to cope with them. Accordingly, Seery et al. (2010) stipulate that without adversity,
individuals are not challenged to manage stress, thus “toughness” and indeed resilience may remain undeveloped.

4. RESILIENCE: THE POTENTIAL LINK BETWEEN HELICOPTER PARENTING AND DEPRESSION IN UNIVERSITY STUDENTS

Current evidence indicates that resilience buffers against depression and other negative psychological outcomes. Pursuant to the theory put forward by Dienstbier (1989), helicopter parenting may prevent the development of resilience due to the very nature of this parenting style. Le Moyne and Buchanan (2011) purport that helicopter parents stunt their children’s independence by trying to solve their problems for them, and in this way do not nurture their children’s ability to negotiate, manage and solve such adverse events and problems. Michael et al., (2006) have described college as a period of transition and adjustment to a novel environment. If students have not developed a good level of resilience they may not be able to cope with these new demands and experiences being placed on them, leaving them vulnerable to depression and other psychological distresses. Therefore, it could be hypothesised that helicopter parenting may be associated with depression in university students via reduced levels of resilience.

Furthermore, this idea may also be able to account for the recent trends witnessed in the prevalence of depression. Kessler et al., (2003) noted that the age of onset of depression has been decreasing, with twice as many people currently experiencing depression reporting that they had experienced their first episode by the end of adolescence compared to those who experienced depression 40 years ago. These trends coincide with “Millennials”, the children of the “Baby Boomer” parent generation (Le Moyne & Buchanan, 2011) reaching early adulthood and entering university. As reported by Kantrowitz and Tyre (2006), “Baby Boomers” are the first generation to have many resources available to them to truly engage in helicopter parenting, and in this way, further plausibility is added to the idea that helicopter parenting may be associated with depression via reduced resilience.

5. THE CURRENT RESEARCH: RATIONALE, AIMS, AND HYPOTHESES

The association between helicopter parenting and depression has not been explored in Ireland, and most importantly, resilience has not been investigated as the potential mechanism through which helicopter parenting is associated with depression in students. Thus, the current research seeks to address a gap in the literature and contribute to the understanding of depression in this age group. Given that prior research has failed to fully account for the relationship between helicopter parenting and depression (Schiffrin et al., 2014), this study is important; because if we can gain insight into what may be contributing to resilience to depression, and in what manner, it may highlight key targets for prevention and intervention strategies.

5.1. Aims

The objective of this research is threefold. Firstly, the study aims to determine if helicopter parenting predicts severity of depressive symptoms in Irish university students. Secondly, it aims to investigate the role of resilience, if any, in the relationship between helicopter parenting and depressive symptoms for this sample by determining if resilience is the mechanism through which helicopter parenting is related to depression. Thirdly, if the above proposed relationship exists, this study seeks to explore which aspects of resilience may be the most important to the relationship.

5.2. Hypotheses

Two main hypotheses were derived from the past literature. Given that Ireland is a westernized culture similar to the United States and that research on American student samples (LeMoyne & Buchanan, 2011; Schiffrin et al., 2014) has found that helicopter parenting predicted depression, it was first hypothesized that helicopter parenting scores would predict depressive symptoms for Irish university students such that higher helicopter parenting scores would predict higher depressive symptoms. Secondly, it was hypothesized that resilience would at least partially mediate the relationship between helicopter parenting and depressive symptoms, specifically that higher helicopter parenting scores would be related to increased depression symptoms via reduced levels of resil-
ience. No hypotheses were made regarding the third objective of this study as this part aimed to be exploratory.

6. METHOD

6.1. Participants

Participants were 208 university students over the age of 18, based in Ireland. The majority were female (71.2%, $N = 148$) and 28.8%, ($N = 60$) were male, with an average age of 23.36 years (standard deviation $[SD] = 6.47$). The majority were undergraduates (76%, $N = 158$) and 24%, ($N = 50$) were postgraduates. Participants’ self-reports indicated that 69.2% ($N = 144$) had previous experience with depression and 13.9% ($N = 29$) were currently experiencing depression.

6.2. Procedure, Ethical Approval & Consent for Participants

The study was approved by the local University Research Ethics committee. Participants were recruited via the internet and completed the questionnaires anonymously online. The invitations to participate included a link to the study and were circulated via email and social media advertisements to seven Irish universities. The participants had to indicate informed consent after reading information about the study before being directed to the study’s questionnaires.

6.3. Measures

All the measures utilised have been previously validated with English speaking populations. Participants first provided demographic information in relation to: gender, age, study level, number of siblings, current relationship status, parental educational attainment, family income and job status. These particular demographic items were chosen as previous research has found associations between them and helicopter parenting (Bradley-Geist & Olson-Buchanan, 2014). Participants were also asked to indicate if they were currently experiencing depression or had done so in the past. All psychometric measures used in this study had an adequate internal reliability score (Cronbach’s alpha > .7) and are consistent with previous findings (See Table 1).

6.3.1. Helicopter Parenting

Three separate variables, namely: perception of over-protection (POP), perception of intrusiveness and control (PIC), and parental engagement in inappropriate behaviour (EIB), were used to assess perceived helicopter parenting. These particular variables were chosen as these are the components which have been targeted in previous research on this phenomenon as outlined in the introduction. It was hoped that by utilising three variables that we could better capture the multi-dynamic nature of helicopter parenting than previous research. POP was assessed using the Helicopter Parenting scale, devised and validated (Cronbach’s alpha = .71) by LeMoyne and Buchanan (2011). This scale captures the extent to which participants feel that their parents are overall unwilling to allow them to experience life’s challenges independently. Participants rated their level of agreement with seven statements on a 5 point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). PIC was assessed via the Over Parenting scale, created and validated (Cronbach’s alpha = .71) by LeMoyne and Buchanan (2011). This scale captures the extent to which participants feel that their parents are too involved in their lives currently. Participants rated their level of agreement with

<table>
<thead>
<tr>
<th>Scale</th>
<th>Current Study</th>
<th>Validation Study</th>
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<tbody>
<tr>
<td>Helicopter Parenting Scale</td>
<td>.76</td>
<td>.71</td>
</tr>
<tr>
<td>Over Parenting Scale</td>
<td>.86</td>
<td>.83</td>
</tr>
<tr>
<td>Helicopter Parenting Behaviours Scale</td>
<td>.81</td>
<td>.77</td>
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<tr>
<td>Resilience Scale for Adults</td>
<td>.85</td>
<td>.79</td>
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<tr>
<td>Beck Depression Inventory II</td>
<td>.90</td>
<td>.94</td>
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Table 1. Internal reliability of the psychometric scales used.
five statements on a 5 point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Finally, EIB was assessed using a modified version of the Helicopter Parenting Behaviours Scale, designed and validated (Cronbach’s alpha = .77) by Schiffrin et al., (2014). This measure gauges the extent to which participants’ parents engage in stereotypical helicopter parenting behaviours. Participants rated their level of agreement with nine statements concerning their parents’ behaviour on a 6 point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree).

6.3.2. Resilience

Participants’ resilience was measured using the self-report Resilience Scale for Adults (RSA) created by Hjemdal, Friborg, Martinussen and Rosenvinge (2001). This scale was selected as in line with Windle (2011) it conceptualises resilience as a multifaceted phenomenon. The RSA consists of 33 items that address six factors: positive perception of the self, positive perception of the future, social competence, structured style, family cohesion, and social resources, with higher scores representing higher levels of resilience. As such, resilience is operationalised as consisting of assets and resources within the individual, their life, and their environment. This scale has demonstrated good internal consistency and reliability (RMSEA = 0.037, Cronbach’s alpha = .79), with general and clinical Scandinavian samples (Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005) and in cross-cultural validation and intervention studies (RMSEA = 0.037, Cronbach’s alpha = .80), (Jowkar, Friborg, & Hjemdal, 2010).

6.3.3. Depressive Symptoms

The Beck Depression Inventory II (BDI Beck, Steer & Brown, 1996) was used to assess participants’ self-reported current level of depressive symptoms. It is a 21 item, multiple-choice measure that assesses the current presence and severity of depressive symptoms. It has been shown to be an internally consistent, reliable and valid measure (Cronbach’s alpha = .94, AUC = .96) for determining depressive symptoms severity (Dozois, Dobson, & Ahnberg, 1998). Participants rate statements on depressive symptoms that reflect their experience over the previous two weeks on a 0 - 3 Likert scale, with higher scores representing more severe depressive symptoms.

6.4. Data Analysis Strategy

In line with the objectives of this research, correlation analyses were computed for all the scales used. In order to investigate hypothesis 1, simple regression analyses were conducted in SPSS (IBM Corp, 2013) in order to determine if helicopter parenting as measured by three separate variables could predict depressive symptoms. Conducive to investigating hypothesis 2, a simple mediation model (See Fig. 1) for each helicopter parenting variable was tested using the SPSS macro PROCESS (Preacher & Hayes, 2008). This method of mediation analysis was chosen over the Baron and Kenny (1989) causal steps approach as this approach has been heavily criticized for being: low in power, prone to type II errors, and for not being based on the quantification of the indirect effect (Hayes, 2009).

![Fig. (1). A simple mediation model for the relationship between helicopter parenting, resilience and severity of depressive symptoms.](image)

The third objective of this study was also addressed using SPSS macro PROCESS (Preacher & Hayes, 2008). In order to develop an understanding of which aspects of resilience are most important to the relationship between helicopter parenting and depressive symptoms, a parallel mediation model incorporating the six separate components of resilience was tested (See Fig. 2) for the POP and PIC variables, allowing comparisons of the influence of each aspect to be drawn.

7. RESULTS

7.1. Descriptive Results and Inter-Variables Correlations

See Table 2 for the means, standard deviations and inter-correlations for all investigated variables. All three helicopter parenting variables were found
to be significantly, but weakly correlated with depressive symptoms \((p < .05)\). Resilience was found to be moderately and negatively correlated with depressive symptoms \((p < .001)\). All three helicopter parenting variables correlated significantly with each other \((p < .001)\); however only moderately, suggesting that they do represent different components of perceived helicopter parenting, thus justifying the use of the three variables.

### 7.2. Simple Linear Regression Analyses

In line with our first hypothesis, in an attempt to understand the helicopter parenting determinants of severity of depressive symptoms in Irish university students, three simple linear regression analyses were conducted. Firstly, Perception of Over-Protection \((\beta = .53, t = 3.4)\) significantly predicted severity of depressive symptoms \(F (1, 206) = 11.56, p = .001\), explaining 5.3% of the variance, indicating that as experienced helicopter parenting increases so too do depressive symptoms. Similar results were found when the regression analysis was run using the Perception of Intrusiveness and Control variable \((\beta = .64, t = 3.5, F (1, 206) = 5.08, p = .001, R^2 = .057)\), and the Parental Engagement in Inappropriate Behaviour variable \((\beta = .19, t = 2.3, F (1, 206) = 5.08, p = .025, R^2 = .024)\).
7.3. Simple Mediation Analyses

In line with our second hypothesis, in an attempt to understand the role of resilience in the relationship between helicopter parenting and depressive symptoms, three separate simple mediation analyses were conducted. The analysis using the POP variable (See Fig. 3a), revealed that helicopter parenting negatively and significantly predicted resilience, $\beta = -1.03$, $F(1, 206) = 11.76$, $p < .001$, explaining 5.4% of the variance, and also that it was significantly and positively related to depressive symptoms $\beta = .29$, $t(207) = 2.03$, $p < .05$, when controlling for resilience. Resilience significantly and negatively predicted depressive symptoms $\beta = -.23$, $t(207) = -7.11$, $p < .001$, when controlling for Perception of Over-Protection. Bootstrapping methods indicated that the indirect effect through resilience, $.24$, (95% CI: $.11: .38$) was statistically significant, suggesting that resilience partially mediates the relationship between Perception of Over-Protection and depressive symptoms, with POP predicting lower resilience, which in turn increases depressive symptoms. This partial mediation suggests that additional mechanisms may be at play in the relationship.

The second analysis, using the PIC variable (See Fig. 3b), also confirmed that helicopter parenting significantly and negatively predicted resilience, $\beta = -1.68$, $F(1, 206) = 24.73$, $p < .001$, explaining 10.1% of the variance, but that it was not significantly related to depressive symptoms $\beta = .25$, $t(207) = 1.44$, $p > .05$, when controlling for resilience. Resilience significantly and negatively predicted depressive symptoms $\beta = -.23$, $t(207) = -6.86$, $p < .001$, when controlling for Perception of Intrusiveness and Control. Bootstrapping methods indicated that the indirect effect through resilience, $.39$, (95% CI: $.22: .60$) was statistically significant. As the direct effect was not statistically significant, this suggests that resilience fully mediates the relationship between Perception of Intrusiveness and Control and depressive symptoms, such that PIC predicts lower resilience, which in turn increases depressive symptoms.

The third analysis, using the EIB variable (See Fig. 3c), revealed that the parental engagement in behaviours deemed inappropriate did not significantly predict resilience $\beta = -2.73$, $F(1, 206) = 2.7$, $p > .05$, and also that it did not predict depressive symptoms when $\beta = .13$, $t (207) = 1.66$, $p > .05$, when controlling for resilience. Resilience was found to significantly and negatively predict depressive symptoms when controlling for Parental Engagement in Inappropriate Behaviour, $\beta = - .23$, $t (207) = -7.52$, $p < .001$. Bootstrapping methods did not reveal a significant indirect effect via resilience, $.67$, (95% CI: -.006: .15), suggesting that resilience does not mediate the relationship between Parental Engagement in Inappropriate Behaviour and depressive symptoms.

![Fig. (3). Simple Mediation Models Testing Results for the Relationship between Helicopter Parenting, Resilience and Severity of Depressive Symptoms, when Helicopter Parenting was assessed through (a) Perception of Over-Protection; (b) Perception of Intrusiveness and Control; and (c) Parental Engagement in Inappropriate Behaviour. Note: **denotes significance at the p < .001 level, * denotes significance at the p < .05 level.](image-url)
7.4. Exploratory Parallel Mediation Analysis

Two of the simple mediation models above supported our hypothesis that higher helicopter parenting scores would be related to increased depression symptoms via reduced levels of resilience. Therefore, in line with our third aim, we sought to explore which resilience components may be the most important to the relationship through parallel mediation analyses.

The first parallel mediation analysis (See Fig. 4a) was conducted using the Perception of Over-Protection variable, the severity of depressive symptoms and the six resilience components as measured by the RSA, namely: social competence, social resources, family cohesion, perception of self, perception of future and structured style. This analysis revealed that Perception of Over-Protection significantly and negatively predicted the following mediators: social resources ($\beta = -0.289, F (1, 206) = 11.93, p < .001, R^2 = .05$), family cohesion ($\beta = -0.419, F (1, 206) = 23.25, p < .001, R^2 = .10$), perception of self ($\beta = -0.115, F (1, 206) = 4.08, p < .05, R^2 = .02$), and perception of future ($\beta = -0.182, F (1, 206) = 6.12, p < .05, R^2 = .08$). However, it did not predict depressive symptoms when controlling for all mediators ($p > .05$). When controlling for helicopter parenting and all other mediators, social resources ($\beta = -0.37, t (207) = -2.36, p < .05$), perception of self ($\beta = -0.47, t (207) = -2.1, p < .05$), and perception of future ($\beta = -0.45, t (207) = -2.53, p < .05$), significantly and negatively predicted depressive symptoms. Bootstrapping methods revealed significant specific indirect effects through social resources, $0.11 (95\% CI: 0.007 - 0.12)$, and perception of the future, $0.08 (95\% CI: 0.041 - 0.30)$, suggesting that the relationship between helicopter parenting and depressive symptoms is mediated via lowered levels of these aspects of resilience. See Table 3 for the details on the indirect effects of the six resilience components on the relationship between Perception of Over-Protection and severity of depressive symptoms.

Similar results were found when the parallel mediation model was tested using the Perception of Intrusiveness and Control variable (See Fig. 4b). Bootstrapping methods for this analysis revealed specific significant indirect effects through social resources, $0.15 (95\% CI: 0.019 - 0.340)$, perception of self, $0.08 (95\% CI: 0.013 - 0.253)$, and perception of the future, $0.08 (95\% CI: 0.041 - 0.30)$, suggesting that the relationship between helicopter parenting and depressive symptoms is mediated via lowered levels of these aspects of resilience. See Table 4 for the details on the indirect effects of the six resilience components on the relationship between Perception of Intrusiveness and Control and severity of depressive symptoms.

8. DISCUSSION

The objective of this study was to investigate the relationship between helicopter parenting and depressive symptoms in Irish university students, in particular to examine resilience as the mechanism through which helicopter parenting predicts depressive symptoms.

<table>
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<tr>
<td>Social Competence</td>
<td>-0.005</td>
<td>0.017</td>
<td>&gt;.05</td>
<td>-0.079 - 0.12</td>
</tr>
<tr>
<td>Social Resources</td>
<td>0.108</td>
<td>0.065</td>
<td>&lt;.001**</td>
<td>0.007 - 0.293</td>
</tr>
<tr>
<td>Family Cohesion</td>
<td>0.050</td>
<td>0.068</td>
<td>&gt;.05</td>
<td>-0.076 - 0.190</td>
</tr>
<tr>
<td>Perception of Self</td>
<td>0.054</td>
<td>0.039</td>
<td>&gt;.05</td>
<td>-0.006 - 0.158</td>
</tr>
<tr>
<td>Perception of Future</td>
<td>0.083</td>
<td>0.046</td>
<td>&lt;.001**</td>
<td>0.018 - 0.212</td>
</tr>
<tr>
<td>Structured Style</td>
<td>0.002</td>
<td>0.012</td>
<td>&gt;.05</td>
<td>-0.015 - 0.032</td>
</tr>
</tbody>
</table>
8.1. Aim 1: Does helicopter parenting predict depressive symptoms for Irish University students?

Our first hypothesis was supported, since helicopter parenting as assessed by all three variables significantly predicted severity of depressive symptoms in Irish students. These results were in line with previous research (LeMoyne & Buchanan, 2011; Schiffrin et al., 2014) such that higher levels of helicopter parenting were associated with increased depressive symptoms. Furthermore, the results are also consistent with research on authoritarian parenting, a parenting style that, similarly to helicopter parenting, is high on control and low on autonomy granting (Padilla-Walker & Nelson, 2012). For example, Milevsky, Schlechter, Netter and Keehn (2007) found an association between authoritarian parenting and depression amongst adolescents. However, even though these helicopter parenting variables predicted depressive symptoms, they only accounted for a small proportion of the variance (2.4% - 5.7%) indicating that other factors beyond the scope of this investigation are predominantly explaining the severity of depressive symptoms for this sample.
8.2. Aim 2: Does resilience mediate the relationship between helicopter parenting and depressive symptoms?

To date, resilience has not been investigated as the potential mechanism through which helicopter parenting affects the severity of depressive symptoms in university students. Our hypothesis relative to this mediation was supported only in part. Indeed, resilience partially mediated the relationship when helicopter parenting was assessed using the Perception of Over-Protection variable, fully mediated it when using the Perception of Intrusiveness and Control variable, but not playing a mediating role when using the Parental Engagement in Inappropriate Behaviour variable.

We considered several explanatory factors of these discrepant findings. The POP and PIC variables for which the mediation was successful both assess the student’s perception of his/her parental attitude, whereas the EIB variable assesses the parental actual engagement in stereotypical helicopter parenting behaviours (e.g., monitoring the student’s diet, contacting the student’s professors). This assumption is supported by the correlation analyses, where the POP and the PIC variables appeared more strongly correlated with each other, than either with the EIB. As such, the differences in what these variables actually capture may be contributing to the mixed findings. It appears that perceptions of helicopter parenting are more important in affecting resilience than the parenting behaviours themselves. This finding is consistent with a more general effect found in psychological literature which places priority on people’s perception of a situation over the considered objective phenomena. For example, McDowell and Serovich (2007) report that perceived social support is more consequential to mental health than actual received or available social support. Similarly, Burns, Drayson, Ring and Carroll (2002) posit that perceived stress rather than actual stress as measured by the objective experience of negative life events is associated with human immune system fitness.

Furthermore, despite our use of three variables to assess helicopter parenting fully, this construct may still not have been captured fully. Indeed, helicopter parenting could be conceptualised as a dyadic phenomenon between the parent and the young adult, while our study’s variables only consider it from the perspective of the young adult. To explore this possibility, replications of our study are needed, using measures of helicopter parenting that reflect its dyadic nature in order to confirm if resilience does mediate the relationship between helicopter parenting and severity of depressive symptoms in the young adult offspring.

8.3. Aim 3: Which resilience component(s) influence the relationship between helicopter parenting and severity of depressive symptoms?

Model testing results showed that social resources and perception of the future were the specific components mediating this relationship when helicopter parenting was assessed with the perception of over-protection variable. Similarly, it was found that social resources, perception of the self and perception of the future were the specific resilience components that mediated the relationship when helicopter parenting was assessed via the PIC variable. These findings suggest that perceived helicopter parenting decreases levels of these resilience components, which in turn increases depressive symptoms.

Although no hypotheses were made relative to the study’s last aim, the related findings are consistent with previous research. According to Friborg and Hjemdal (2004), the social resources component of resilience concerns social support, such as the presence of friends and family to provide help, support and encouragement. Interestingly, helicopter parenting has also been linked with difficulties with (and a lack of trust of) peers, and with a critical family environment (Segrin, Givertz, Swaitkowski & Montgomery, 2015; Van Ingen et al., 2015). These associations could potentially explain why perceived helicopter parenting predicted lower social resources in this study. Friborg and Hjemdal (2004) also posit that the perception of self component of resilience refers to feelings of confidence in oneself, self-efficacy and self-esteem. Previous research has associated helicopter parenting with low self-efficacy and lower feelings of competence (Givertz & Segrin, 2012; Schiffrin et al., 2014), which may explain why in this study perceived helicopter parenting predicted decreased positive perceptions of the self. Furthermore, Friborg and Hjemdal (2004) purport that the perception of the future component of resilience concerns a positive outlook on one’s own future and a sense of belief about opportunities to succeed. Schiffrin et al., (2014) found that heli-
copter parenting predicted lower feelings of autonomy, thus, perceived helicopter parenting in this study could have predicted decreased positive perceptions of the future as these students may feel a lack of control over their future.

The pattern of results found also ties in with established theories about the development and prevention of depression. For example, Beck’s cognitive theory of depression (1964) states that negative cognitions about the self, the world and the future initiate and perpetuate the development of depression. This may be why specific indirect effects via perception of the self and perception of the future were found in this study. The specific indirect effect via social resources is in line with the buffering hypothesis of social support against depression. For example, a meta-analysis of 341 studies (Rueger, Malecki, Pyun, Aycock & Coyle, 2016) has established the positive general benefits of social support as related to depression. Although the present study findings are generally in line with previous research, they should be interpreted with caution given that the phenomenon of helicopter parenting may not have been captured fully, as described above.

8.4. Theoretical and Clinical Implications of the Current Findings

There is a dearth of research on the effects of helicopter parenting on college aged young adults, with Somers and Settle (2010) qualifying empirical research in this domain as “anaemic”. Our study advances theoretical knowledge by addressing several gaps in the literature. Firstly, it supports the view that helicopter parenting is not only an “American Phenomenon” as our results in the Irish student population were similar to the findings of studies using American samples (LeMoyne & Buchanan, 2012; Schiffrin et al., 2014). Secondly, our results permits the following theoretical speculations. Overprotecting parenting that continues through the offspring’s young adulthood interferes with the individual’s resilience development, especially in relation to building social resources, reaching up for social support and construct perception of self-efficacy. By being overprotective through adolescence and young adulthood, parents may be denying the emerging adults the opportunity to face and deal independently with ordinary life stressors. Indeed, it is recognised that successfully dealing with moderate stressful experience promotes resilience through improved self-confidence (see Butcher, Mineka & Hooley’s [2014] review). Experiencing helicopter parenting may therefore interfere with the emerging adults’ ability to develop resilience to depressive symptoms when faced with stressful life experience as they would have missed the practice with such dealing, which, without over-protective parenting, should naturally occur during development.

Future research needs to test these explanatory hypotheses before preventative and treatment strategies integrate helicopter parenting as an intervention target. Nevertheless, our study does provide strong support for intervention targets, in the student population, aiming at increasing resilience, through developing positive perceptions of the self and the future, and reaching up to social resources.

9. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

There are some limitations associated with the present study. As mentioned earlier, there may be issues with the way helicopter parenting was assessed. Three different variables were chosen because there is yet to be a widely accepted scale to measure helicopter parenting comprehensively (Schiffrin et al., 2014). However, aspects of helicopter parenting may have been missed, particularly as none of the variables took into account the dyadic nature of helicopter parenting. Future research could use factorial analysis to determine if the variables used in this study do indeed represent helicopter parenting, with the aim of developing a comprehensive helicopter measurement scale.

Additionally, 69.2% of the participants self-reported having had previous experience with depression; however, this was not controlled for. This could have interfered with the results, as according to Solomon et al., (2000) previous experience with depression increases risk for experiencing depression in the future. This also could be indicative of a self-selection bias in those choosing to partake in the study, given that prior to partaking; participants read an information sheet highlighting that mood was a focus of the study. However, as it was not possible to determine how many people received an invitation to participate, this cannot be confirmed. Therefore, future research on the effects of helicopter parenting on resilience to
depression needs to assess the contribution of previous experience with depression.

Future research should try to replicate the findings of this study in order to confirm if resilience is indeed the mechanism through which helicopter parenting is related to increased depressive symptoms, using a comprehensive helicopter parenting measure and controlling for previous experience with depression. Moreover, longitudinal studies that follow children into adolescence and adulthood should seek to comprehensively assess the relationship between helicopter parenting, resilience development and depression. Finally, as helicopter parenting only accounted for a small proportion of the variance in depressive symptoms for this sample, research aimed at identifying other contributing determinants is required in order to be able to effectively tackle the worrying depression prevalence rates among university students.

HUMAN AND ANIMAL RIGHTS

Humans were used for this study.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

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Helicopter Parenting, Resilience and Depressive Symptoms

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