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The Effect of Maternal and Paternal Caregivers' Failure Mindsets and Helicopter Parenting on Emerging Adults' Intelligence Mindsets

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THE EFFECT OF MATERNAL AND PATERNAL CAREGIVERS' FAILURE MINDSETS AND HELICOPTER PARENTING ON EMERGING ADULTS' INTELLIGENCE MINDSETS

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This is to certify that the thesis prepared by Nichole M. Boigegrain entitled: "The Effect of Maternal and Paternal Caregivers' Failure Mindsets and Helicopter Parenting on Emerging Adults' Intelligence Mindsets" has been approved by her committee as satisfactory completion of an honors thesis as partial fulfillment for the degree of Bachelor of Science.

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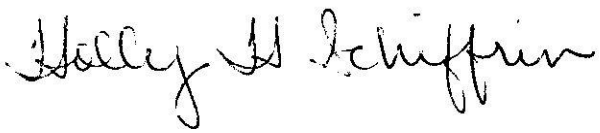

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Abstract

The purpose of this study was to examine whether maternal helicopter parenting and paternal helicopter parenting mediated the relationship between maternal failure mindset and paternal failure mindset and emerging adults' intelligence mindset. Participants were 99 emerging adults between the ages of 17 and 19 who completed an online survey in a location most comfortable for them. I used three measures to determine whether helicopter parenting mediated the relationship between the emerging adults' perception of their maternal and paternal caregivers' failure mindsets and the emerging adults' intelligence mindsets. Helicopter parenting behaviors were found to mediate the relationship between mothers' failure mindsets and their children's intelligence mindsets. When emerging adults reported that their mothers' viewed failure negatively, their mothers engaged in more helicopter parenting behaviors, and they were more likely to have fixed intelligence mindsets. These relationships were not significant for fathers. According to prior research, people with fixed intelligence mindsets tend to cope badly with failure, have little motivation for approaching challenges, and often feel hopeless and question their abilities.

The Effect of Maternal and Paternal Caregivers' Failure Mindsets and Helicopter Parenting on Emerging Adults' Intelligence Mindsets

Intelligence mindsets have been established as a strong influencer of how people interpret and react to challenges they face throughout their lifetime. Carol Dweck and others (1995) found that children implicitly view intelligence as something that is either adaptable over time or fixed at birth and that the child's view impacts their motivation, success, reactions to failure, and behavior. Her research has had a profound impact on how children are educated (Aronson et al., 2002; Blackwell et al., 2007; Dweck, 1986; Dweck, 2000; Dweck 2010; Dweck et al., 1995; Dweck & Leggett, 1988; Hong et al., 1999). Because children's intelligence mindsets have been found to impact important outcomes, such as a person's success, it is important to fully understand what leads to the development of intelligence mindsets. While current research has found that the way a child is praised does affect their mindset development (Amemiya & Wang, 2018; Kamins & Dweck, 1999; Mueller & Dweck, 1998; Pomerantz & Kempner, 2013), that relationship does not fully explain the formation of their mindset and, thus, more research is needed to establish additional possible contributors.

Mindset theory states that people have either an incremental or an entity theory of intelligence (Dweck, 1986). Those who have an incremental theory of intelligence believe that their intelligence can grow over time with effort. This belief is known as a growth mindset, and it is linked to many positive outcomes such as seeing failure as an opportunity to learn, persevering during difficult times, pursuing challenges, and increased task satisfaction as well as performance (Dweck, 1986; Dweck & Yeager, 2019; Hong et al., 1999; Li & Bates, 2019). Growth mindsets are also associated with less depressive symptoms (Seabrook, 2017). Perhaps the biggest benefit of having a growth mindset is that when people fail, they believe it is because

they did not put in enough effort rather than thinking that they simply cannot do something or that they are not good enough for the job (Dweck, 1975; Dweck & Reppucci, 1973). As a result, they increase their efforts when conflicts and challenges arise, rather than give up (Diener & Dweck, 1978; Dweck, 1986; Dweck & Reppucci, 1973). Increasing their efforts when facing difficulties generally produces better academic outcomes and more task enjoyment than those who give up (Aditomo, 2015; Aronson et al., 2002; Blackwell et al., 2007; Dweck, 1986; Dweck, 2007; Dweck, 2010; Grant & Dweck, 2003; Yeager & Dweck, 2012; Yeager et al., 2019). In contrast, people who often give up when facing challenges are described as having fixed mindsets and are considered to have an entity theory of intelligence, meaning that they see intelligence as an innately fixed trait that cannot be changed. Children with fixed mindsets often participate in inhibitory behaviors when it comes to their social, emotional, and academic development (Dweck, 2000). As previously mentioned, they often give up once difficulties arise and turn away from challenges because they believe any failure they experience is caused by their lack of intellectual ability, something which they believe they have no control over (Dweck, 1986; Dweck et al., 1995; Hong et al., 1999).

Given that growth mindsets are linked to much more positive outcomes than fixed mindsets (Aronson et al., 2002; Blackwell et al., 2007; Diener & Dweck, 1978; Dweck, 1975; Dweck, 2000; Dweck, 2007; Dweck, 2010; Hong et al., 1999), a lot of research has been conducted to determine how to increase the likelihood that a child will develop a growth mindset. One of the things that researchers have examined is whether parents' intelligence mindset predicts their children's intelligence mindsets, but this idea was not consistently supported (Gunderson et al., 2013; Haimovitz & Dweck, 2016; Park et al., 2016). A theory about why parents' intelligence mindsets do not affect their children's is that their beliefs may only be

demonstrated internally. Due to the internal nature of intelligence mindsets, they may be too much of an abstract concept for their children to observe and, therefore, do not affect their children's views on intelligence (Haimovitz & Dweck, 2016). Researchers have also looked for behaviors that were more observable when adults tried to motivate children after success or failure that could have an impact on a child's intelligence mindset (Haimovitz & Dweck, 2017). They found that parents foster their children's intelligence mindsets by the way they approach praising their children's success. When a parent praises their child's end results in a way that makes it appear that intelligence is constant, such as saying "You're a good girl or boy" or "You're really good at this," they are fostering the development of a fixed mindset (Kamins & Dweck, 1999; Pomerantz & Kempner, 2013). When a parent praises their child's effort and process, by saying things like "You must have tried really hard," they are fostering the development of a growth mindset because they are associating success with effort and hard work (Amemiya & Wang, 2018; Haimovitz & Dweck, 2017; Kamins & Dweck, 1999; Mueller & Dweck, 1998).

Previous research has mostly examined how parents praise their children's accomplishments (Kamins & Dweck, 1999; Mueller & Dweck, 1998; Pomerantz & Kempner, 2013), but recently researchers have started to consider how the parents' reactions to their children's failure impacts the children's intelligence mindsets. For example, Moorman and Pomerantz (2010) experimentally assigned mothers to fixed and growth mindsets while watching their children solve test questions. In the entity (fixed) mindset condition, they explained to mothers that children's scores on this test are stable across time, despite the amount of time the child spent studying, while mothers in the incremental (growth) mindset condition were told that children's scores on the test often change, with the score heavily depending on how much

studying was done. Moorman and Pomerantz saw that mothers who were assigned to the entity mindset condition were more controlling of their children and focused more on the child's outcome rather than process. These mothers also did not provide as much constructive help when their children felt helpless as the mothers who were assigned to the incremental mindset did.

When parents are concerned that their child's failure on a task reflects their child's innate abilities, rather than a lack of the child's effort, parents tend to act in more controlling ways (Moorman & Pomerantz, 2010). Because this reactive behavior is something that children can observe and use to help them understand how their parents view failure (Haimovitz & Dweck, 2016), researchers have started to look at the parent's failure mindset as a possible explanation for intelligence mindset development. A parent who has a failure-is-debilitating mindset may show anxiety and concern about their children's performance, which conveys to their children that failure is unacceptable and should be avoided, resulting in the child internalizing a fixed view of intelligence (Haimovitz & Dweck, 2016). While parents who have a mindset that failure-is-enhancing talk to their children about how failure is an opportunity for them to learn from mistakes and further develop their knowledge and skills, fostering their children to develop growth mindsets (Haimovitz & Dweck, 2016).

Previous research has shown that one way a parent can exhibit a failure-is-debilitating mindset is by engaging in helicopter parenting behaviors (Schiffrin, Yost, et al., 2019). Helicopter parenting refers to developmentally inappropriate levels of parent involvement and control in their children's lives, which is often observable through their advice, direction, and help with problem-solving (Padilla-Walker & Nelson, 2012; Segrin et al., 2012). Helicopter parents are so worried about their children's performance that they might inappropriately intervene in their children's lives often in order to prevent them from facing failure. Helicopter

parenting behavior could include the parent taking charge of the child's homework assignments or calling their teachers and demanding a grade change. The parents' behavior stresses the importance of achieving good results, rather than the child actually learning and doing the work. The parents' outcome-based focus communicates to the child that failure is unacceptable and must be avoided at all costs. While helicopter parents' intentions are to help their children succeed, their inappropriate involvement often hinders the children's development, especially if the helicopter parenting behaviors continue throughout the period of emerging adulthood (18-25 years old). It is especially harmful during this period as this is the time when children should start gaining independence from their parents and figuring out the rules of life (Arnett, 2000).

Prior research has found that helicopter parenting is associated with a variety of negative consequences among people who experience it. It has been found to have adverse effects on emerging adults' social relationships (Darlow et al., 2017; Klein & Pierce, 2009; Kouros et al., 2017; Padilla-Walker & Nelson, 2012; Segrin et al., 2012; van Ingen et al., 2015) and on their well-being (Darlow et al., 2017; Fletcher et al., 2020; Hong & Cui, 2020; Klein & Pierce, 2009; Kouros et al., 2017; Lee & Kang, 2018; LeMoyne & Buchanan, 2011; Love, Cui, et al., 2019; Odenweller et al., 2014; Reed et al., 2016; Rousseau & Scharf, 2015; Schiffrin, Erchull, et al., 2019; Schiffrin, Liss, Miles-McLean, et al., 2014; Segrin et al., 2013; Wieland & Kucirka, 2019). The research on how helicopter parenting affects emerging adults' academic outcomes is less well established. Some studies have found that overly involved parenting is associated with their children having lower academic success (Kim et al., 2013; Shoup et al., 2009). Helicopter parenting has also been found to predict variables, such as how emerging adults adjust to college (Darlow et al., 2017), their perceived academic control (Hwang & Jung, 2020), their level of school engagement (Nelson et al., 2015; Padilla-Walker & Nelson, 2012), and has been linked to

increased procrastination (Hong et al., 2015) as well as school burnout (Love, May, et al., 2019). Helicopter parenting has been found to predict other variables related to academic outcomes such as decreased self-efficacy (Bradley-Geist & Olson-Buchanan, 2014; Darlow et al., 2017; Givertz & Segrin, 2014; Kim, 2018; Reed et al., 2016; van Ingen et al., 2015; Wieland & Kucirka, 2019), as well as increased perfectionism, avoidance goals, extrinsic motivation, and entitlement (Fletcher et al., 2020; Schiffrin & Liss, 2017).

Helicopter parenting has also been found to mediate the association between parental failure mindset and emerging adults' intelligence mindsets (Schiffrin, Yost, et al., 2019), which have consistently been associated with academic development (Aronson et al., 2002; Blackwell et al., 2007; Dweck, 1986; Dweck, 2000; Dweck, 2010; Dweck et al., 1995; Dweck & Leggett, 1988; Hong et al., 1999). Schiffrin and her colleagues found that parents' failure mindset increased both maternal and paternal helicopter parenting behaviors, but that only paternal helicopter parenting mediated parents' failure mindset and emerging adults' intelligence mindset. So, as emerging adults perceived their paternal caregivers to view failure as more debilitating, they reported that their fathers participated in more helicopter parenting behaviors and they were more likely to have a fixed mindset. However, a limitation of this study was that it only asked about parents' failure mindset, in general, rather than maternal and paternal failure mindset separately.

When asking about a "parent," there is some evidence to suggest that participants may be answering mostly about their mothers (Hays, 1998; Schiffrin, Liss, Geary, et al., 2014). Asking about parents in general is a limitation in previous research as there is evidence that mothers and fathers parent differently from one another, which might have different effects on children's outcomes (Cui, Graber, et al., 2019; Day & Padilla Walker, 2009; Kim & Hill, 2015; Love, Cui,

et al., 2019; Marsiglio et al., 2000; Pleck, 2012; Schiffrin, Erchull, et al., 2019). In order to address this issue, the latest research has placed a priority on asking about both maternal and paternal parenting behaviors separately (Cui, Janhonen-Abruquah, et al., 2019; Fingerman et al., 2012; Love, Cui, et al., 2019; Love, May, et al., 2019; Pleck, 2012; Rousseau & Scharf, 2015; Schiffrin, Erchull, et al., 2019; van Ingen et al., 2015).

While only a few studies have examined maternal and paternal helicopter parenting as separate factors, there is evidence supporting the idea that mothers participate in helicopter parenting behaviors more often (Cui, Janhonen-Abruquah, et al., 2019; Fingerman et al., 2012; Schiffrin, Erchull, et al., 2019) and that fathers tend to reserve their involvement for only major issues (Somers & Settle, 2010), which makes paternal helicopter parenting seen as a less normative behavior (Love, May, et al., 2019). These gender differences in the amount of helicopter parenting behaviors exhibited have been found to have different effects on children. For example, van Ingen and others (2015) found that maternal, but not paternal, helicopter parenting predicted emerging adults' having less self-efficacy and feeling alone and distant from their peers. Rousseau and Scharf (2015) found that paternal helicopter parenting was linked to children having worse communication with their peers and more feelings of interpersonal sensitivity and distress, while maternal helicopter parenting was linked to decreased interpersonal sensitivity only in sons; maternal helicopter parenting was actually associated with increased interpersonal sensitivity in daughters. Because of these differences, more research is needed on the effects of maternal and paternal helicopter parenting on emerging adults' outcomes.

Given prior research on gender differences in parenting, the current study builds on Schiffrin and colleagues' study by looking at maternal and paternal failure mindsets separately

(Schiffrin, Yost, et al., 2019). I hypothesized that maternal helicopter parenting would mediate the relationships between maternal failure mindsets and emerging adults' intelligence mindsets and that paternal helicopter parenting would mediate paternal failure mindsets and emerging adults' intelligence mindsets. In other words, I hypothesized that mothers and fathers would convey their belief that failure-is-debilitating through maternal and paternal helicopter parenting behaviors, respectively, and their participation in those behaviors would foster the development of a fixed mindset among their emerging adult aged children.

Method

Participants

The current study's participants consisted of 99 emerging adults between the ages of 17 and 19 years old. Everyone who disclosed their student status, said they were attending college full time. On average, the participants were 18.09 years old (*SD* = 0.28) and female (84.6%), with 14.4% identifying as male. The majority of participants identified as White (79.4%), followed by 7.8% as Asian or Pacific Islander, 6.9% as Multiracial, 2.9% as Black, and 2.9% as other. Many of the participants identified as coming from middle class families (53.8%), followed by 38.5% upper middle class, 6.7% working class, and 1.0% as poor. The majority of them lived on campus (87.5%), followed by 9.6% who lived at home, and 2.9% who lived in an off-campus apartment.

Procedure

Participants were recruited from the Introductory Psychology participant pool at a public, liberal arts university through the system SONA. They received partial credit towards a course requirement for completing an online survey that was created with the program Qualtrics. Students who were first semester college freshman between the ages of 17 to 19 and were able to

answer questions about both a maternal and paternal caregiver were eligible to participate. They could answer the online survey questions at the location they felt most comfortable doing so. The data were collected anonymously, as no identifiable information was gathered from the participants or through Qualtrics. Participants were allowed to skip questions and exit the survey at any time without penalty. This study was approved by the university's Institutional Review Board.

Measures

Children's Perception of Parents Failure Mindset (FMS). Participants completed this 4-item scale (Haimovitz & Dweck, 2016) to measure emerging adult's perception of their parent's failure mindset. Items were rated on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The original study asked about parents collectively, but in this study, the measure was adjusted to ask about mothers and fathers separately. Sample items include "My mother (father) thinks failure is bad and should be avoided" and "My mother (father) thinks my failures can help me learn." After reverse coding the items related to failure is enhancing mindsets, higher scores indicate that the participant believed their caregiver to have a more debilitating view of failure. Cronbach's alpha of this scale was .77 for parents collectively in the original sample (Haimovitz & Dweck, 2016) and in this study it was .89 for mothers and .84 for fathers.

Consolidated Helicopter Parenting Scale (CHPS). Emerging adults' perception of how often their parents participated in helicopter parenting behaviors was measured by this 10-item scale (Schiffrin, Yost, et al., 2019). The CHPS measure was designed as a result of an exploratory factor analysis. Originally, two of the items were rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*), however, for the present study, those items were changed to be on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*) in order to remain consistent with all

other items in the measure. Sample items include, “My mother (or father) supervised my every move growing up” and "I think my mother (or father) is too overly involved in my life.” The higher the score a participant received meant the higher intensity of helicopter parenting they experienced. In the original study, the Cronbach’s alpha was .90 for the participant’s report of their mother’s helicopter parenting behaviors and .88 for their father’s helicopter parenting behaviors. In this study, the Cronbach’s alpha was .91 for mothers and .87 for fathers.

The Implicit Theory Measure (IMS). This 3-item scale (Dweck et al., 1995) was used to measure the participants' implicit theories about their intelligence. This measure was used to categorize participants into having either an entity theory or incremental theory. The three items were: (a) “You have a certain amount of intelligence and you really cannot do much to change it,” (b) “Your intelligence is something about you that you cannot change very much,” and (c) “You can learn new things, but you cannot really change your basic intelligence.” The scale ranges from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher scores suggest the participant having an incremental theory, which is that intelligence can be changed with strategy and effort. While lower scores suggest a person having an entity theory, which is that intelligence is fixed and cannot be changed, despite any efforts that are made to do so. Relatively high internal reliability (.96) and test-retest reliability (.98) has been found in previous research for this measure (Dweck et al., 1995). For the current study, the internal reliability was .89.

Data Analyses

Descriptive analyses for all measures were examined in order to find the means, standard deviations, and the correlations among the measures. Next, a two-way mixed ANOVA was conducted to examine the effect of emerging adults’ and caregivers’ gender on helicopter parenting. Then, a mediation analysis was conducted using the Hayes (2017) Process macro for

SPSS. This analysis was used to examine whether maternal helicopter parenting (MHP) and paternal helicopter parenting (PHP) mediated the relationship between maternal failure mindset (MFMS) and paternal failure mindset (PFMS) and emerging adults' intelligence mindset (IMS).

Results

Descriptive statistics were examined for the three measures administered. The means, standard deviations, and correlations can all be found in Table 1. Participants reported that both their maternal and paternal caregiver's failure mindset were just below the midpoint, meaning, on average, they thought both sets of caregivers viewed failure to be slightly more beneficial than harmful. Participants reported their mothers exhibited helicopter parenting behaviors just above the midpoint of the scale, and that their fathers were below the midpoint. Looking at the IMS measure's means, participants reported their mindset was above the midpoint, meaning that on average participants had more of a growth mindset.

Examining the correlations, maternal and paternal caregivers' failure mindsets were shown to be positively correlated with one another, indicating that according to the participant, their maternal and paternal caregivers tended to have similar views about whether failure is enhancing or debilitating. Maternal failure mindset also had a significant positive correlation with maternal and paternal helicopter parenting. As emerging adults reported their maternal caregivers had more of a failure mindset, they reported both of their caregivers exhibiting more helicopter parenting behaviors. However, paternal failure mindset was significantly correlated with only paternal helicopter parenting. Meaning, as emerging adults reported their paternal caregivers having more of a failure mindset, they reported only their paternal caregiver participating in more helicopter parenting behaviors. Neither paternal failure mindset nor paternal helicopter parenting were correlated with emerging adults' intelligence mindsets.

However, both maternal failure mindset and maternal helicopter parenting were correlated with emerging adults' intelligence mindsets.

Next, a two-way mixed ANOVA was conducted to examine the effect of emerging adults' and caregivers' gender on helicopter parenting. The results of the ANOVA indicated that the interaction between the gender of the caregiver and the participant was not significant, $F(1, 93) = 1.41$, $p = .238$. The main effect of the participants' gender, $F(1, 93) = .37$, $p = .55$ was also not significant. However, there was a significant main effect of the caregiver's gender, $F(1, 93) = 5.93$, $p = .017$, indicating that maternal caregivers engaged in significantly more helicopter parenting behaviors than paternal caregivers. Thus, I included maternal and paternal caregivers' helicopter parenting as separate predictors in the mediation model.

The mediation analysis was conducted using bias-corrected 95% confidence intervals based on 10,000 bootstrap samples (Hayes, 2017). Originally, two different models were run using procedures that permitted them to be integrated into one final model (see Figure 1). First, a mediation model with the outcome of emerging adults' intelligence mindsets was conducted with maternal failure mindset as the predictor while covarying the effects of paternal failure mindset. Then, a separate mediation model was made for the same outcome using paternal failure mindset as the predictor while covarying the effects of maternal failure mindset. Covarying the opposite sex caregiver permitted modeling of the mediation paths for one caregiver while controlling for the other (see Table 2).

While controlling for paternal caregivers' failure mindset, maternal caregivers' failure mindset was associated with significantly higher levels of helicopter parenting ($a_1 = .75$, 95% $CI = .54$ to $.95$), which was associated with emerging adults having a fixed mindset ($b_1 = -.34$, 95% $CI = -.62$ to $-.06$), resulting in a significant indirect effect ($a_1b_1 = -.25$, 95% $CI = -.51$ to $-.04$).

The direct effect of maternal failure mindset on their emerging adults' intelligence mindsets (c' = -.15, 95% *CI* = -.44 to .15) was not significant, suggesting full mediation. The path from maternal failure mindset through paternal helicopter parenting (a_2 = .14, 95% *CI* = -.08 to .36) was not significant. Thus, the indirect path from maternal caregivers' failure mindset to emerging adults' intelligence mindset through paternal helicopter parenting was also not significant (a_2b_2 = .02, 95% *CI* = -.03 to .11).

While controlling for maternal caregivers' failure mindset, paternal caregivers' failure mindset was significantly associated with higher levels of paternal helicopter parenting (a_4 = .30, 95% *CI* = .05 to .55). However, the path from paternal helicopter parenting to emerging adults' intelligence mindsets (b_2 = .15, 95% *CI* = -.11 to .42) was not significant. Thus, the indirect path from paternal caregivers' failure mindset to emerging adults' intelligence mindset was not significant (a_4b_2 = .05, 95% *CI* = -.04 to .18). The direct effect of paternal failure mindset on their emerging adults' intelligence mindset (c' = -.06, 95% *CI* = -.34 to .23) was also not significant. The path from paternal failure mindset through maternal helicopter parenting (a_3 = -.17, 95% *CI* = -.41 to .07) was not significant as well, resulting in a nonsignificant indirect path from paternal caregivers' failure mindset to emerging adults' intelligence mindset through maternal helicopter parenting (a_3b_1 = .06, 95% *CI* = -.03 to .19).

Discussion

The purpose of this study was to examine whether maternal and paternal helicopter parenting mediated the relationship between emerging adult's perception of their maternal and paternal caregivers' failure mindsets and their own intelligence mindsets. I proposed that maternal helicopter parenting would mediate the relationships between maternal failure mindset and emerging adults' intelligence mindset and that paternal helicopter parenting would mediate

paternal failure mindset and emerging adults' intelligence mindset. My hypotheses were partially supported. Only maternal helicopter parenting was identified as a significant mediator. In other words, as emerging adults perceived their maternal caregivers to view failure as more debilitating, they reported that their mothers participated in more helicopter parenting behaviors and they were more likely to have a fixed mindset. When emerging adults believed their paternal caregivers viewed failure as harmful, they did report that their fathers participated in more helicopter parenting behaviors; however, they were not more likely to have a fixed mindset.

This study's results are consistent with previous research findings that maternal caregivers' behavior has more influence on child outcomes than the paternal caregivers' behavior, (Kim, 2018; Nelson et al., 2015; Padilla-Walker et al., 2019; Schiffrin, Erchull, et al., 2019; van Ingen et al., 2015). Mothers might have a greater influence because maternal caregivers tend to be more involved in their children's lives (Marsiglio et al., 2000) and engage in more helicopter parenting behaviors than paternal caregivers (Fingerman et al., 2012; Klein & Pierce, 2009; Rousseau & Scharf 2015; Scharf et al., 2017; Schiffrin, Erchull, et al., 2019; Somers & Settle, 2010; van Ingen et al., 2015). In order to examine whether paternal caregivers' behaviors were related to their emerging adults' intelligence mindsets independent of maternal caregivers' behaviors, a separate mediation model was conducted with only paternal variables (contact authors for details); however, a similar pattern was found. Paternal failure mindset was associated with higher levels of helicopter parenting, but the mediation was not significant. Thus, it appears that maternal caregivers seem to influence their children's mindsets in a way that paternal caregivers do not.

My results differ from previous research that examined maternal and paternal helicopter parenting as a mediator between parental failure mindset and emerging adults' intelligence

mindsets (Schiffrin, Yost, et al., 2019). Although both studies found that parents' failure mindset was associated with increased helicopter parenting behaviors, the previous study found that paternal helicopter parenting mediated parents' failure mindset and emerging adults' intelligence mindset, while the present study found that maternal helicopter parenting mediated maternal failure mindset and emerging adults' intelligence mindset but that paternal helicopter parenting was not a significant mediator of this relationship. The authors of the previous study speculated that paternal helicopter parenting was more influential because it might violate the norms of parental involvement since mothers traditionally are more involved academically (Schiffrin, Yost, et al., 2019). The authors also suggested that paternal helicopter parenting could have a greater influence on their children because fathers tend to display more of a performance orientation than mothers, and that children of parents with performance orientations are more likely to develop fixed mindsets (Schiffrin, Yost, et al., 2019).

It is not entirely clear why the father pathways were significant in Schiffrin's study (Schiffrin, Yost, et al., 2019) and not in the present one, as both studies used similar measures, aside from the fact the previous study asked about parents' failure mindset while the present study asked about mothers' and fathers' failure mindsets separately. Prior research has suggested that when asked about their "parents" people usually respond in terms of their mother (Hays, 1998; Schiffrin, Liss, Geary, et al., 2014). However, this explanation does not account for the discrepancy in findings between these two studies. If participants in the original study (Schiffrin, Yost, et al., 2019) had been referring to their mothers when answering the questions about their "parents" failure mindset, maternal helicopter parenting, rather than paternal helicopter parenting, should have mediated the relationship between parental failure mindset and emerging adults' intelligence mindset. A possible explanation for the discrepancies between the results of

the two studies may be due to differences in the samples. This study had a smaller sample size and a larger percentage of female participants (~10% more). The larger percentage of females could be the reason behind the differences in results, as gender congruence theory hypothesizes that parents have a greater impact on same-gender children (Ruble et al., 2006). In support of the gender congruence hypothesis, Rousseau and Scharf (2015) found that maternal helicopter parenting has a greater influence on daughters than sons and paternal helicopter parenting has a greater influence on sons than daughters. So, if paternal failure mindsets impact sons more than daughters, there might not have been enough power in this study to detect an association between fathers' failure mindsets and emerging adults' intelligence mindsets given the small sample of male participants. Additional research is needed to clarify the differences in findings of these two studies.

This study provides further support for the idea that caregivers' failure mindset is made observable through helicopter parenting behaviors and that those behaviors affect children's intelligence mindsets, which builds on previous failure mindset research (Haimovitz & Dweck, 2016; Schiffrin, Yost, et al., 2019). This study also adds to the research on what contributes to the development of children's intelligence mindsets other than praise (Amemiya & Wang, 2018; Haimovitz & Dweck, 2017; Kamins & Dweck, 1999; Pomerantz & Kempner, 2013) as helicopter parenting behaviors are another way to make adults' mindsets observable to children. Future research should examine whether parental reports of their own intelligence mindsets are related to helicopter parenting behaviors, as parents' intelligence mindsets are too abstract for children to discern (Haimovitz & Dweck, 2016) and helicopter parenting could be a behavioral manifestation of parents' fixed mindset. Moorman's and Pomerantz's (2010) study found that mothers who were experimentally assigned to fixed mindsets were more controlling of their

children, so it seems likely that caregivers with fixed mindsets would engage in the higher levels of control that are associated with helicopter parenting.

Mindset research extends beyond parenting styles as mindsets have also been widely applied in academic settings (Aditomo, 2015; Aronson et al., 2002; Dweck, 2010; Paunesku et al., 2015; Rattan et al., 2015; Sisk et al., 2018; Yeager & Dweck, 2012; Yeager et al., 2019). Similar to the results for parents, prior research has found that teachers praising students' intelligence rather than their effort is associated with fixed mindsets (Amemiya & Wang, 2018; Kamins & Dweck, 1999; Mueller & Dweck, 1998). Thus, researchers should examine whether teachers are engaging in developmentally inappropriate levels of control similar to helicopter parents. If they are participating in these behaviors, then training on how to best react to their students' failure may be needed, as teachers could be communicating to students that failure is unacceptable, which could be fostering the development of fixed mindsets. If children develop a fixed mindset about academic success then they may struggle with transitioning into college, as they may face rigorous academic challenges for the first time and will need to learn how to persevere in the face of difficulty (Diener & Dweck, 1978; Dweck, 1986; Dweck, 2000).

Although many previous studies have found positive outcomes associated with a growth mindset and negative consequences of having a fixed mindset (Aditomo, 2015; Aronson et al., 2002; Blackwell et al., 2007; Diener & Dweck, 1978; Dweck, 1975; Dweck, 1986; Dweck, 2000; Dweck, 2007; Dweck, 2010; Dweck et al., 1995; Dweck & Reppucci, 1973; Grant & Dweck, 2003; Hong et al., 1999; Yeager & Dweck, 2012), some recent studies have suggested that intelligence mindset may not have as big of an effect on academic outcomes as prior research suggests (Burgoyne et al., 2020; Li & Bates, 2019; Moreau et al., 2019; Sisk et al., 2018), Therefore, research is needed to address concerns about the strength of the effects that

intelligence mindsets have on academic outcomes. For example, despite predictions by mindset theory (Dweck, 1986; Dweck & Yeager, 2019) that growth mindsets are associated with learning-goal orientations while fixed mindsets are associated performance-goal orientations, Burgoyne and colleagues (2020) found only weak support for these premises (i.e., only explained about 1% of the variance). They argued that other variables such as self-esteem, need for achievement, and general self-efficacy each have been found to explain more of the variance in learning-goal orientation than mindset (Burgoyne et al., 2020). Future researchers could examine these variables with intelligence mindset and helicopter parenting as possible mediators. In addition, future research should examine emerging adults' actual academic outcomes, such as grades, in order to determine if there is a practical impact of the path from maternal and paternal failure mindset to maternal and paternal helicopter parenting to children's intelligence mindset to children's academic outcomes.

Limitations and Future Research

Despite hypothesizing a pathway from maternal caregivers' failure mindset to their children's intelligence mindset through helicopter parenting behaviors, it is important to note that this study's results are correlational, not causal. There is a chance that children who see intelligence as something that is unchangeable could elicit helicopter parenting behaviors from their parents. Meaning that if children are avoiding challenges and giving up easily then their parents might be solving their problems and stepping into their lives more often, rather than the other way around. In order to establish the temporal order of these variables, longitudinal research is needed. Prior research has found a causal relationship between parents' failure mindsets and their responses to their children failing (Haimovitz & Dweck, 2016), but

comparable research is necessary in order to apply this relationship to other populations, such as emerging adults.

Another limitation of this study is the possibility of shared reporter variance as emerging adults were my sole source of information, which could have inflated the relationships among the variables examined in this research. Despite these concerns, I believe my use of self-report data was appropriate as sometimes people's individual perceptions directly influence their feelings, thoughts, and behaviors more than an objective measure does (Marsiglio et al., 2000; Pelegrina et al., 2003). It is likely that the impact of helicopter parenting on emerging adults is one of those times where using self-report data is appropriate. The majority of previous research on how helicopter parenting affects emerging adults' outcomes has been built on self-report data. The studies that did use parent reports typically discovered that helicopter parenting is associated with few child outcomes (Schiffrin & Liss, 2017; Segrin et al., 2012; Segrin et al., 2013). However, future researchers should still consider multiple data sources to help confirm these relationships and to help capture all of the effects that helicopter parenting may have on emerging adults' intelligence mindsets.

A final limitation of this study is the generalizability of the findings. The sample consisted of mostly white females who came from middle to upper middle-class families. While helicopter parenting behaviors tend to be more common in these economic groups (Nelson, 2010) future researchers should still look at more diverse samples to obtain a better understanding of the effects of helicopter parenting across different backgrounds (social economic levels, ethnicities, and gender). In particular, researchers may want to get a more balanced sample of males and females in order to further examine whether the effects of helicopter parenting are different based on the sex of the parent and the child. Previous research

has found that helicopter parenting has different effects on children depending on the sex of the parent and child. For example, Somers and Settle (2010) found that mothers might help their sons more often than their daughters and Rousseau and Scharf (2015) found that sons might benefit more from maternal (not paternal) helicopter parenting than daughters.

Overall, maternal caregivers' reactions to their children's failure appear to be a major contributor to the development of their children's intelligence mindsets. The maternal caregivers' failure-is-debilitating mindset seems to be observable through the caregivers' inappropriate helicopter parenting behaviors, which in turn promotes the children's development of a fixed mindset. The way that children view intelligence can have a major impact on their academic success, especially during the adolescent and emerging adulthood time periods. If they believe that intelligence is something that cannot be changed, the impact on their academic achievement is generally negative. Thus, parents should avoid engaging in helicopter parenting behaviors as it may have adverse effects on their children's academic tendencies. As these negative effects are likely the opposite of what helicopter parents wanted to have on their children (Segrin et al., 2012), there is hope that interventions can help reverse the effects (Dweck & Yeager, 2019; Sisk et al., 2018, Yeager et al., 2019), especially when implemented early in life (Sisk et al., 2018).

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Table 1

Means, standard deviations, and correlations of Maternal FMS, Paternal FMS, Maternal HP, Paternal HP, and IMS

	M (SD)	1	2	3	4	5
1. Maternal FMS	2.48 (1.28)	-	.49***	.63***	.27**	-.31**
2. Paternal FMS	2.35 (1.14)		-	.20	.30**	-.10
3. Maternal HP	3.52 (1.41)			-	.57***	-.33**
4. Paternal HP	2.82 (1.23)				-	-.12
5. IMS	4.19 (1.33)					-

**$p < .01$, ***$p < .001$

Table 2

Unstandardized Coefficients, Standard Errors, and Model Summary for Mediation Model

		Maternal Helicopter Parenting (M_1)				Paternal Helicopter Parenting (M_2)				Emerging Adults' Intelligence Mindsets (Y)		
		Coeff.	*SE*	*p*		*Coeff.*	*SE*	*p*		*Coeff.*	*SE*	*p*
MFMS	a_1	0.75	0.10	<.001	a_2	0.14	0.11	0.20	c'	-0.15	0.15	0.32
PFMS	a_3	-0.17	0.12	0.17	a_4	0.30	0.13	0.02	c'	-0.06	0.14	0.70
MHP		-	-	-		-	-	-	b_1	-0.34	0.14	0.02
PHP		-	-	-		-	-	-	b_2	0.15	0.13	0.26
Constant	i_{M1}	2.04	0.29	<.001	i_{M2}	1.80	0.31	<.001	i_y	5.43	0.40	<.001
		R^2 = .38				R^2 = .12				R^2 = .17		
		$F(2, 94) = 28.69$, $p < .001$				$F(2, 94) = 6.68$, $p = .002$				$F(4, 92) = 4.75$, $p = .002$		

Figure 1

*Maternal and paternal helicopter parenting as mediators of maternal and paternal caregivers' failure mindset and emerging adults' intelligence mindset (*p < .05; ***p < .001)*