Slide 1: "Good morning. Today I am going to tell you about how helicopter parenting is related to emerging adults' intelligence mindsets through its association with parents' failure mindsets."

Slide 2: "An intelligence mindset refers to whether a person views intelligence as an innately fixed trait that cannot be changed or as something that can grow over time with effort. Growth mindsets lead to more favorable outcomes than fixed mindsets because those who believe intelligence can be changed are more likely to persevere during difficult times and see failure as an opportunity to learn while those with fixed mindsets generally start doubting their abilities and cope poorly with failure. Previous research has shown that parental praise can influence a child's mindset. When a parent praises the end result, such as a final grade, the child is more likely to develop a fixed mindset; but, if a parent praises the child's effort, then a growth mindset is more likely to be developed. Researchers have also examined whether parents' intelligence mindset is a predictor of their children's intelligence mindsets, but they did not find significant results. Parents' intelligence mindsets may not be easily observable to their children. However, researchers have found that parents' failure mindset do predict their children's intelligence mindset."

Slide 3: "Parents can view failure as debilitating or enhancing. When parents convey that failure is harmful to their children, it increases the likelihood that their child will develop a fixed mindset. However, if they communicate that failure is a beneficial learning process, then their children are more likely to develop a growth mindset. For example, a parent who believes failure is harmful might yell at their child for receiving a bad test grade, even if they had been studying

hard for days, because they care more about the end result. While a parent who believes failure is part of the learning process would work with their child after they did poorly on a test to help them develop better studying strategies and stress the importance that they can learn from their mistakes."

Slide 4: "One way parents might make their failure mindset evident to their children is through helicopter parenting behaviors. Helicopter parenting refers to developmentally inappropriate levels of parent involvement and control in their children's lives. Mothers typically engage in these helicopter parenting behaviors more than fathers. Parents who believe that failure is harmful might inappropriately intervene in their children's lives more often in order to prevent them from facing failure. This 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 results-based focus creates an environment where failing may cause the child to feel anxious and depressed rather than motivated to improve and learn. Thus, fixed mindsets are more likely to develop."

Slide 5: "A previous study done by Dr. Schiffrin and others looked at this issue and found that parents' failure mindset increased both maternal and paternal helicopter parenting behaviors, but paternal helicopter parenting was the only significant mediator between parents' failure mindset and emerging adults' intelligence mindset. A limitation of this study was that they only asked about parents' failure mindset, rather than maternal and paternal failure mindset separately."

Slide 6: "Given prior research on gender differences in parenting, Dr. Schiffrin and I wanted to build on the original study by looking at maternal and paternal failure mindsets separately. We hypothesized that maternal helicopter parenting will mediate the relationships between maternal failure mindset and emerging adults' intelligence mindset and that paternal helicopter parenting will mediate paternal failure mindset and emerging adults' intelligence mindset."

Slide 7: "In order to test our hypothesis, I conducted a survey of college freshmen. After removing participants who either didn't finish the survey or asked that their data not be included in the analyses, I had a final sample of 99 people. A majority of the participants were white and female with an average age of around 18 years old."

Slide 8: "My survey included three measures, which all had either good or excellent reliability. The predictor was the Children's Perception of Parents Failure Mindset. The scale was adapted to ask about mothers and fathers separately. A sample item is 'My mother or father thinks failure hurts my learning.' 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. The mediator was the 10-item Consolidated Helicopter Parenting Scale. A sample item is 'My mother or father supervises my every move.' Higher scores on this scale indicate that the participant experienced more helicopter parenting. The outcome was the Implicit Theory Measure. A sample item representing a fixed mindset is 'You have a certain amount of intelligence, and you can't really do much to change it.' After reverse coding items related to

fixed mindsets, higher scores on this scale indicate that the participant had more of a growth mindset."

Slide 9: "Participants were recruited from Introductory Psychology courses at the University of Mary Washington through SONA. They received partial credit towards a course requirement for completing an on-line survey created using qualtrics. Participants were required to be able to answer questions about both a maternal and paternal caregiver and be a first semester freshman in college between the ages of 17 and 19. Data was collected anonymously. Participants were allowed to skip questions and exit the survey at any time without penalty."

Slide 10: "First I will give you an overview of the correlations, starting with the one highlighted in the second column. Maternal and paternal caregivers' failure mindsets were positively correlated with one another, meaning that mothers and fathers tended to have similar views of failure as either enhancing or debilitating."

Slide 11: "Maternal failure mindset had a significant positive correlation with maternal and paternal helicopter parenting while paternal failure mindset was significantly correlated with only paternal helicopter parenting. As emerging adults reported their maternal caregivers having more of a failure mindset, they reported both of their caregivers exhibiting more helicopter parenting behaviors. And as emerging adults reported their paternal caregivers having more of a failure mindset, they reported just their paternal caregiver participating in more helicopter parenting behaviors."

Slide 12: "Neither paternal failure mindset or paternal helicopter parenting was correlated with emerging adults' intelligence mindsets. However, both maternal failure mindset and maternal helicopter parenting were correlated with emerging adults' intelligence mindsets."

Slide 13: "Focusing on maternal caregivers first, failure mindset was associated with significantly higher levels of helicopter parenting, which was correlated with emerging adults having a fixed mindset, resulting in a significant mediation."

Slide 14: "For paternal caregivers, failure mindset was significantly associated with higher levels of paternal helicopter parenting. However, the path from paternal helicopter parenting to emerging adults' intelligence mindsets was not significant."

Slide 15: "The paths from maternal failure mindset through paternal helicopter parenting and vice versa were not significant, meaning that maternal failure mindset was not related to how much the father figure would participate in helicopter parenting behaviors and that paternal failure mindset was not correlated with maternal helicopter parenting behaviors."

Slide 16: "My original hypothesis that both maternal and paternal helicopter parenting would mediate the relationships between the emerging adults' perception of the respective parents' failure mindsets and their own intelligence mindsets was partially supported. Only maternal helicopter parenting was identified as a significant mediator. In other words, as emerging adults believed their maternal caregivers viewed failure as more harmful, they reported that their

mothers participated in more helicopter parenting behaviors and they were more likely to have a fixed mindset."

Slide 17: "My study's findings share similarities with past research. First, participants reported that their maternal caregivers exhibited more helicopter parenting behaviors than their paternal caregivers. Similar to prior research, this study also found that helicopter parenting is related to emerging adults' intelligence mindsets through its association with parents' failure mindsets. However, I found maternal helicopter parenting to be a significant mediator between mother's failure mindset and the emerging adult's intelligence mindset, while Schiffrin and colleagues found that paternal, not maternal, helicopter parenting, mediated the relationship between "parents" failure mindset and emerging adults' intelligence mindset. A possible explanation for the different results is that my study had a smaller sample size and a larger percentage of female participants. This could be the reason behind the differences in results, as gender congruence theory hypothesizes that parents have a greater impact on same-gender children. In support of the gender congruence hypothesis, one study 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."

Slide 18: "While my study shares similar characteristics and findings with others, there is always room for improvement. My sample was made up of mostly caucasian females, who were all college students. This greatly restricts the generalizability of my findings and future research should try to repeat the study with a more diverse sample population. Also, the findings are correlational, so researchers should examine this relationship longitudinally in order to establish temporal order, or experimentally to determine causality. This study relies on self-report data from emerging adults. While prior researchers have found that people's perceptions are more strongly related to their thoughts, feelings, and behaviors than observer reports, future researchers should still consider multiple data sources to help confirm these relationships. Finally, mindset research has been widely applied in academic settings, therefore; researchers should determine if teachers are engaging in behaviors similar to helicopter parenting, and if so put a plan in place to prevent those behaviors as teachers may be communicating to students that failure is unacceptable and they may be fostering the development of fixed mindsets. This pattern has already been found for teachers praising students' intelligence rather than their effort."

Slide 19: "The results of this study have important implications for parenting practices. Caregivers who engage in helicopter parenting behaviors typically are trying to help their children be happy and successful. However, if they are communicating to their children that failure should be avoided at all costs by exhibiting these helicopter parenting behaviors, then caregivers may be unintentionally reinforcing the thought that intelligence is fixed. This is harmful towards children as having a fixed mindset can result in feeling helpless, questioning

their abilities, and disliking the challenges of learning. Having a fixed mindset can also cause people to cope poorly with failure, and they may break the rules in order to avoid it, such as cheating on tests to avoid receiving a bad grade. By understanding these findings, parents can engage in behaviors that help their children develop growth mindsets and experience better academic outcomes rather than participating in behaviors that can have the opposite effects on their emerging adults than what they originally intended."

Slide 20: "Thank you for taking the time to listen to my research."