

THE EFFECTS OF INSTAGRAM'S IDEALIZED PORTRAYALS OF MOTHERHOOD ON NEW
MOTHERS' WELL-BEING

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Doctor of Philosophy

by

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

THE EFFECTS OF INSTAGRAM'S IDEALIZED PORTRAYALS OF MOTHERHOOD ON NEW
MOTHERS' WELL-BEING

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DEDICATION

This dissertation is dedicated to my son, Dysen Kirkpatrick, whose birth during my Ph.D. program led to my passion for this dissertation topic. I also want to thank my husband, Devan Kirkpatrick. There is no one else I'd rather go through the ups and downs of parenting with, and I'm forever grateful for you supporting my dreams. Lastly, thank you to my parents, Debra and Nyle Dockter, for raising me to be the person I am today. I look up to you even more now that I'm a parent myself.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
ABSTRACT.....	ix
CHAPTER 1: INTRODUCTION	1
CHAPTER 2: LITERATURE REVIEW	5
Mothers and Social Media.....	5
Social Media & Social Comparisons	6
Effects of Social Comparisons to Portrayals of Motherhood on Social Media	7
Social Comparison Theory (SCT).....	10
The Foundations of SCT.....	10
Directions of Social Comparisons.....	12
The Effects of Social Comparisons	13
Limited Capacity Model for Motivated Mediated Message Processing (LC4MP)	14
Idealization of Motherhood Portrayals	17
Historical Idealizations of Motherhood Portrayals in the Media	17
The Presence of Idealized Motherhood Portrayals on Today’s Social Media	20
Social Comparisons to Idealized Social Media Portrayals.....	22
Processing of Idealized Portrayals	23
Hypothesized Effects of Idealization of Motherhood Portrayals.....	25
Source of Motherhood Portrayals.....	31
Hypothesized Effects of Source of Motherhood Portrayals	34
Interaction of Idealization of Motherhood Portrayals and Source of Motherhood Portrayals	37
Effects of Individual Difference Variables.....	37
Mother’s Parenting Status	38
Self-Esteem.....	39
Social Comparison Orientation (SCO)	40
Instagram Usage.....	41
CHAPTER 3: METHOD.....	43
Experimental Design and Stimuli	43
Independent Variables	45
Idealization of Motherhood Portrayals.....	45
Source of Motherhood Portrayals	46
Individual Difference Variables.....	46
Parenting Status	46
Self-Esteem.....	47
Social Comparison Orientation	47
Instagram Use	48

Dependent Variables.....	50
Perceived Similarity	50
Social Comparison	50
Envy	50
State Anxiety	51
Parental Competence.....	51
Life Satisfaction	51
Recognition	52
Experiment Procedure	53
Participants	54
CHAPTER 4: RESULTS	56
Effects of Idealization of Motherhood Portrayals	56
Perceived Similarity	56
Social Comparison	56
Envy	56
State Anxiety	57
Parental Competence.....	57
Life Satisfaction	58
Recognition	58
Effects of Source of Motherhood Portrayals.....	58
Perceived Similarity	58
Social Comparison	59
Envy, State Anxiety, Parental Competence, Life Satisfaction, and Recognition.....	59
Interaction of Idealization of Motherhood Portrayals and Source of Motherhood Portrayals	60
Interaction of Idealization and Source on Perceived Similarity	60
Interaction of Idealization and Source on Social Comparison	61
Interaction of Idealization and Source on Envy	62
Interaction of Idealization and Source on Anxiety.....	63
Interaction of Idealization and Source on Parental Competence.....	63
Interaction of Idealization and Source on Life Satisfaction	63
Interaction of Idealization and Source on Recognition	63
The Impact of Individual Difference on Processing Motherhood Instagram Post	66
Mother’s Parenting Status	66
Self-Esteem.....	69
Social Comparison Orientation (SCO)	75
Instagram Use	84
CHAPTER 5: DISCUSSION	98
Comparisons to the Motherhood Portrayals	100
Recognition of the Motherhood Portrayals	102
Effects of the Motherhood Portrayals on Well-Being: Envy, State Anxiety, Parental Competence & Life Satisfaction	107
Interaction Effects of Individual Difference Variables	109
Mother’s Parenting Status	109
Self-Esteem.....	110

Social Comparison Orientation (SCO)	113
Instagram Usage.....	114
Limitations and Future Directions	117
Conclusion and Practical Implications	120
<i>REFERENCES</i>	<i>124</i>
<i>APPENDIX A</i>	<i>141</i>
<i>APPENDIX B</i>.....	<i>142</i>
<i>VITA</i>	<i>167</i>

LIST OF TABLES

Table 1: Interaction of Mothers' Parenting Status with Idealization and Source.....	67
Table 2: Interaction of Self-Esteem with Idealization and Source.....	73
Table 3: Interaction of Social Comparison Orientation (SCO) with Idealization and Source.....	79
Table 4: Interaction of Number of Instagram Followers with Idealization and Source.....	88
Table 5: Interaction of Time Spent on Instagram with Idealization and Source.....	92
Table 6: Interaction of Instagram Intensity with Idealization and Source.....	96

LIST OF FIGURES

Figure 1. Interaction of Idealization and Source on Perceived Similarity.....	61
Figure 2. Interaction of Idealization and Source on Social Comparison.....	62
Figure 3. Interaction of Idealization and Source on Image Recognition.....	64
Figure 4. Interaction of Idealization and Source on Text Recognition.....	65
Figure 5. Interaction of Idealization and Self-Esteem on Life Satisfaction.....	71
Figure 6. Interaction of Source and Self-Esteem on Social Comparison.....	72
Figure 7. Interaction of Source and Self-Esteem on Text Recognition.....	73
Figure 8. Interaction of Idealization and Social Comparison Orientation on Social Comparison.....	77
Figure 9. Interaction of Idealization and Social Comparison Orientation on Parental Competence.....	78
Figure 10. Interaction of Social Comparison Orientation and Source on Social Comparison when Posts are Non-Idealized.....	81
Figure 11. Interaction of Social Comparison Orientation and Source on Social Comparison when Posts are Idealized.....	82
Figure 12. Interaction of Social Comparison Orientation and Source on Image Recognition when Posts are Non-Idealized.....	83
Figure 13. Interaction of Social Comparison Orientation and Source on Image Recognition when Posts are Idealized.....	84
Figure 14. Interaction of Idealization and Number of Followers on Social Comparison.....	86
Figure 15. Interaction of Source and Number of Followers on Text Recognition.....	87
Figure 16. Interaction of Idealization and Time Spent on Instagram on Social Comparison.....	91
Figure 17. Interaction of Idealization and Instagram Intensity on Social Comparison.....	95
Figure 18. Interaction of Source and Instagram Intensity on Parental Competence.....	96

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by Ciera Kirkpatrick

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ABSTRACT

Similar to how early mass media idealized the experience of motherhood through content such as celebrity mother profiles in magazines, social media is now disseminating idealized portrayals of motherhood that may be putting increased pressures on mothers and negatively affecting their mental health. This study was designed to examine *if* and *how* Instagram posts portraying motherhood have an impact on new mothers' well-being. The study argues that by depicting motherhood, these Instagram posts are motivationally relevant for new mothers and thereby increase activation of the mothers' appetitive motivational system and the cognitive resources allocated to processing the posts. An experimental design was employed to test the causal effects of the idealization (i.e., whether the motherhood portrayals are idealized or non-idealized) and source (i.e., whether the portrayals are from a mommy influencer or an everyday mother) of these motherhood portrayals. A total of 464 new mothers were exposed to 20 Instagram posts portraying motherhood. The findings showed that new mothers make greater social comparisons to Instagram motherhood portrayals that are non-idealized (rather than idealized) and from everyday social media mothers (rather than mommy influencers). The mothers in the study perceived greater similarity to these posts (the non-idealized, everyday mother posts) and, as a result, paid greater

attention to these posts, which, in turn, increased their recognition memory of the post content. That said, while social comparisons were higher for the non-idealized portrayals, the idealized portrayals were found to have greater negative effects on the well-being of new mothers, as envy and state anxiety were significantly higher after exposure to the idealized posts. This study also provides evidence that particular characteristics of new mothers interact with the portrayals to influence the effects of the posts. For example, the findings show that mothers with low self-esteem are more susceptible to idealized portrayals of motherhood causing lowered life satisfaction, and mothers who are highly inclined to make social comparisons are more susceptible to idealized portrayals of motherhood causing lowered feelings of parental competence.

Keywords: Instagram comparisons, LC4MP, motherhood portrayals, new momism, social comparison theory, social media comparisons

Chapter 1: Introduction

The world of Instagram parenting has been described as “an alternate universe where milk never spills and cherry blossoms are always in bloom” (Bahler, 2019). It’s a world where children are always happy, homes are always clean, and mothers wear full faces of makeup — regardless of if they are going out or staying home to care for their children. Meanwhile, the reality of motherhood looks quite different. Children are irritable, postpartum depression is an enduring challenge, and mothers are too tired to clean the house — let alone do their hair and makeup. Nevertheless, Instagram continues to be home to countless picture-perfect portrayals of motherhood, posted for the world to see. While it isn’t inherently wrong for mothers to share happy moments from their lives, these portrayals may become dangerous if they cause other mothers to have unrealistic expectations of how motherhood should look for them, and in turn, they may affect mothers’ well-being. This study examines *if* and *how* Instagram posts portraying motherhood have an impact on new mothers’ well-being.

Prior research has illustrated that social media can have detrimental effects on individuals when social media users make social comparisons to idealized posts that they see portrayed by other users. For example, previous research found that idealized portrayals of physical appearance have led social media users to make unrealistic body comparisons, resulting in negative outcomes such as body dissatisfaction and decreased mental well-being (e.g., Brown & Tiggemann, 2016; Tiggemann & Zaccardo, 2015). As these effects have been found in the realm of physical appearance, it has been suggested that similar effects may also occur in the realm of motherhood (le Moignan et

al., 2017; Padoa et al., 2018). Seeing other mothers' portrayals of motherhood is likely to lead social media users to compare their own experiences, and in the case of users seeing near-flawless portrayals, users may feel as though they don't measure up to other mothers. Given that the transition to motherhood is one of the most difficult, stressful adjustments an individual can endure (LeMasters, 1957; McDaniel et al., 2012), the result of such comparisons may be especially detrimental. The effects may also carry over to other domains as well. For instance, the effects that the comparisons have on a mother's well-being may also exert a negative impact on her child's well-being, given that the emotional well-being of mothers affects parent-child interactions and mothers' attachment and communication with her child (Martins & Gaffan, 2000; Mikulincer & Shaver, 2019; Milgrom et al., 2004; Murray & Cooper, 1997). A global depopulation trend is also occurring, with many women choosing not to have children or choosing to have fewer children than mothers of past generations (Cowan, 2021; Gallagher, 2020). As there are many factors influencing these decisions for women, it's important to understand the role of the media ecosystem that mothers and potential mothers are in, as the pressures from social media could influence when and if a woman decides to have children. Thus, for multiple reasons, it is of great importance to investigate and understand how social media motherhood portrayals influence message viewers (i.e., mothers).

While investigating the effects that Instagram posts portraying motherhood have on new mothers' well-being, in particular, this study tests the effects of idealized and non-idealized portrayals coming from "mommy influencers" and everyday social media

mothers. Idealized portrayals are defined as those which present idealistic, admirable images of motherhood that are solely focused on the positive aspects of parenting and do not mention difficulties associated with parenting. In contrast, non-idealized portrayals are defined in this study as those that present more authentic, non-idealistic images of motherhood that include mention of the difficulties associated with parenting. Mommy influencers are defined as “verified” users with large Instagram followings. They post on Instagram to attract sponsors and make money through promotion of brands. Everyday social media mothers, on the other hand, are social media mothers who do not have a “verified” status and do not post as a means of trying to attract sponsors and money. This study predicts that portrayals of motherhood on Instagram (coming from mommy influencers and everyday mothers) lead to social comparisons in the viewers (i.e., mothers) that, in turn, influence their emotions (including feelings of envy and levels of anxiety), perceived parental competence, and life satisfaction. This is based on the hypothesis that the social comparison processes during the exposure to portrayals of motherhood will influence automatic cognitive resource allocation during exposure to the portrayals. As well, this study considers how individual differences (i.e., audience characteristics) among new mothers interact with the portrayals of motherhood to influence the outcome variables of interest. In particular, this study includes an examination of the mother’s parenting status (whether or not they are a first-time mom), self-esteem, social comparison orientation, and Instagram usage as individual difference variables.

In doing so, this study extends social comparison theory (SCT) to the context of mother-to-mother comparisons, where comparisons may be occurring among an especially vulnerable population (i.e., new mothers making the transition to their new role as a parent). Prior social comparison investigations within media effects research have primarily focused on body image comparisons and has relied heavily on student samples (Appel et al., 2016; Chae , 2015). While a small body of literature has begun to apply SCT to the context of motherhood comparisons (e.g., Amaro et al., 2019; Coyne et al., 2017; Padoa et al., 2018), this study will be the first to employ an experiment to test the causal relationship between motherhood portrayals on Instagram and social comparison outcomes. Despite mothers being frequent users of social media, there has been little empirical research conducted to look at the effects of social media use on this audience (Djafarova & Trofimenko, 2017). It is expected that the findings of the study will contribute to advancing our understanding of the effects of social media and its messages on mothers.

Chapter 2: Literature Review

Mothers and Social Media

In 2020, the majority of mothers (87%) in the United States reported using social media, with 50% of mothers using Instagram (Edison Research, 2020), a photo and video sharing social media service owned by Facebook. While the internet, in general, is a common way for mothers to gain information about raising their children (Chae, 2015; Djafarova & Trofimneko, 2017), social media, specifically, may play an important role for new mothers as it allows for the sharing and receiving of parent-related information and support while also allowing mothers to maintain and establish social connections. In a time in which women are likely taking some time off from work and spending less time engaging in social activities in person (as a result of caring for their child), social media allows mothers to still stay connected to their peers and friends and have some semblance of a social life (Bartholomew et al., 2012).

Women, including mothers, have been repeatedly found as one of the most active demographics on social media (eMarketer, 2015), and, despite having become busier with the new roles and responsibilities associated with being a mother, in some countries (e.g., Russia), research has indicated that mothers are the most socially active during the first year of their child's life (Djafarova & Trofimenko, 2017). In the United States, mothers are more likely than fathers to use social media, including Instagram (Duggan et al., 2015), and mothers' use of social media largely centers on sharing photos and updates related to their child's life — a practice termed by some as “sharenting” (Dann et al., 2018). While photos and memories associated with parenting

and the early years of a child's life were once preserved in scrapbooks and photo albums for only close friends and family to see, documenting such moments has now become common on social media, leading to a larger audience that sees the photos that are taken (Bahler, 2019; le Moignan et al., 2017).

Social Media & Social Comparisons

Recent research (e.g., Amaro et al., 2019; Coyne et al., 2017; Padoa et al., 2018; Tosun et al., 2020) suggests that as mothers share their parenting experiences on social media and social networking sites, there is a likelihood for other mothers to compare their own motherhood experiences to those they see portrayed online. This is not all too surprising, given that it's been well-established that people make comparisons to other people they see on social media (e.g., Lee, 2014). Of concern is that a number of negative outcomes have been found to result from social comparisons on social media. For instance, comparisons on social media have been associated with negative outcomes such as body dissatisfaction and body image concerns (e.g., Fardouly & Vartanian, 2015; Fox & Vendemia, 2016; Meier & Gray, 2014; Stronge et al., 2015; Tiggemann & Slater, 2013), depression and depressive symptoms (e.g., Appel, Crusius et al., 2015; Nesi & Prinstein, 2015; Steers et al., 2014), and lowered self-esteem (e.g., Chua & Chang, 2016; Vogel et al., 2014). Often, social media users present their best selves (i.e., portrayals of themselves as attractive, happy, and successful), allowing them to appear more attractive/happy/successful than they are in reality (e.g., Chou & Edge, 2011; Chua & Chang, 2016; Fox & Vendemia, 2016). As a result, social media users who draw comparisons to what they see portrayed online are often comparing their normal

selves to other users' "best selves" and this, in turn, results in negative comparison experiences which can reduce one's overall well-being and self-satisfaction (Coyne et al., 2017; Vogel et al., 2014). As social media exposes users to content (such as motherhood portrayals) beyond what one would encounter in normal everyday life, there are more opportunities for comparisons to occur and this can have significant effects.

Effects of Social Comparisons to Portrayals of Motherhood on Social Media

Recent research has attempted to understand the effects that social media comparisons might have on mothers. For instance, Coyne and colleagues (2017) examined social comparisons via social networking sites in the contexts of parenting, mental health, and relationship outcomes using survey data that included detail of mothers' media and internet usage, as well as data regarding their personal lives and relationships. While they were unable to test causation, their data revealed that social comparisons on social networking sites was related to higher levels of parental role overload, lower levels of parental competence, more relationship conflict, less-positive co-parenting relationships, and higher levels of maternal depression. They suggested that social media comparisons cause mothers to have perceptions that they are not as good of parents as the other parents they see parenting content from, and this, in turn, leads to the negative effects. In another study, Padoa and colleagues (2018) discuss that becoming a new parent may lead mothers to use social media as a way to assess their motherhood skills by means of comparisons to other moms. In their study, they specifically looked at how Instagram and Facebook use influence the mental health of new mothers with self-oriented and societal-prescribed perfectionism. They found that

while the amount of time spent on social media had no effect, making social comparisons to other mothers on social media contributed to symptoms of anxiety and depression for mothers with self-oriented parenting perfectionism. For mothers with societal-prescribed parenting perfectionism, social comparison only contributed to symptoms of anxiety (rather than anxiety and depression). Based on these findings, the authors concluded that comparisons to other mothers on social media may have negative effects on the mental health of mothers who are perfectionists (and these mothers may be more likely to engage in such comparisons).

Mothers as a Vulnerable Demographic for Social Comparisons. In examining the effects of such comparisons on mothers, it is important to take into account that this demographic (i.e., mothers) may be particularly susceptible to effects due to their vulnerable mental, physical, and economic states. The transition to parenthood has long been considered to be one of the most difficult, stressful transitions (LeMasters, 1957; McDaniel et al., 2012), with challenges ranging from reduced time for leisure activities and couple bonding to increased levels of responsibilities and levels of worrying (i.e., worrying about the child's health). As roles and responsibilities shift, stress levels often increase, and this stress can be made worse by a lack of sleep that many parents often encounter as result of their baby not sleeping well (McDaniel & Teti, 2012). While parenting is stressful for both mothers and fathers, mothers often face increased difficulties. In addition to having to physically recover from their bodies undergoing delivery (in the case of mothers who carried their child — i.e., non-adoptive mothers), mothers are also at increased risk for battling issues such as postpartum depression.

Further, mothers tend to miss out on more sleep than their husband counterparts (McDaniel & Teti, 2012) and also tend to have greater societal expectations placed on them in regard to role-expectations and issues such as breastfeeding (Howorth, 2017). While parenting, in general, is costly (e.g., the costs of medical bills, diapers, and other necessities), it can have especially profound effects for mothers economically, as their employment status and earnings are often affected. After having a child, the rate of participation in the workplace often drops among women, with subsequent births (i.e., having more children) causing greater decreases. And for the mothers who continue to work, earnings often fall soon after the time of the baby being born (Sandler & Szembrot, 2020). As a result of societal norms and historical gender roles, women have been expected to stay home and take on the care-taking role (i.e., caring for the children and the home) at a greater rate than men have been expected to (Douglas & Michaels, 2004).

As a result of these various vulnerabilities for women, anxiety and sadness are the most common emotions experienced during the transition to motherhood, and anger often occurs as well (Behringer et al., 2011). Thus, with women already being in a compromised mental state, it may be especially important for health professionals to be aware of the effects that social comparisons, which can occur by social media use, can have for new mothers.

Subsequent Effects of Comparisons on Children. Further, if social media motherhood comparisons have detrimental effects for mothers, this could also have harmful effects for their child(ren). Postnatal depression and mood disorders have been

found to influence maternal cognitions and parent-child interactions (e.g., decreased maternal responsiveness to infancy, decreased general stimulation of infants, affective discordance, abrupt breaks in engagement, and poor sensitivity to infants), which can lead to negative effects on the child (e.g., infants' cognitive and emotional development)(Beck, 1995; Milgrom et al., 2004; Murray & Cooper, 1997; Sinclair & Murray, 1998). Additionally, the emotional well-being of mothers has been found to directly affect mothers' attachment and communication with her child (Martins & Gaffan, 2000; Mikulincer & Shaver, 2019). Thus, the effects of social comparisons to motherhood portrayals on social media are not only important to investigate for the sake of mothers' health but also for the sake of their child(ren). By identifying and preventing risk factors associated with social comparison effects, it may be possible to reduce negative effects for both mothers and their children.

To conduct this investigation of the effects of social comparisons, this study employs the frameworks of social comparison theory (SCT) and the limited capacity model of motivated mediated message processing (LC4MP).

Social Comparison Theory (SCT)

The Foundations of SCT

Social comparison theory (SCT; Festinger, 1954) suggests that we, as humans, are innately driven to evaluate ourselves. While we prefer to evaluate ourselves with objective standards, objective standards are not always available and, thus, we commonly rely on social comparisons as a means for self-evaluation. Essentially, we compare the opinions and abilities of someone else to that of our own, to see how we

measure up to them, and, in doing so, we form an evaluation of ourselves. In making such comparisons, we compare ourselves to people who are similar to us (in terms of important, related attributes) and people who we deem as “attractive” (in terms of some quality/ability)(Festinger, 1954; Goethals & Darley, 1977; Suls et al., 2002). Making comparisons to people who are similar to us is necessary for us to have a reasonable standard with which to compare ourselves. For example, it would make more sense for a working mother of three children to compare her motherhood expectations and experiences to another working mother with multiple children, rather than a stay-at-home mother or a mother of only one child. Further, we make comparisons to individuals we deem as “attractive” because they resemble the ideal we would like for ourselves. By comparing ourselves to them, we can assess if we meet the goals of our ideal self while also learning how we can be more like them. The more attractive someone is, the more likely we are to use them as a comparison target (Festinger, 1954).

Because we make social comparisons to individuals who we perceive to be similar to us and who we hope to be like, we are driven to reduce discrepancies that we perceive between ourselves and our target comparison (i.e., the person we want to be like). This is largely due to humans’ motivation to do better (Festinger, 1954). When perceiving a discrepancy, we may become motivated to change our behaviors (e.g., devote more time to practicing a certain skill) as a way of working to reduce the discrepancy (Festinger, 1954; Goethals, 1986; Kruglanski & Mayseless, 1990; Wood, 1989). However, this will only occur if the thing (e.g., ability or attribute) that we are

evaluating (i.e., comparing) is something that we perceive to be important (i.e., it should have some sort of emotional value). Without importance, an individual will not go through the process of evaluation (i.e., comparison)(Festinger, 1954).

When first introduced, SCT had a restricted focus on the comparison of “abilities” and “opinions,” but the theory has more recently been expanded to have broader use. As a result, social comparison is now referred to as “any process in which individuals relate their own characteristics with that of others” (Buunk & Gibbons, 2007, p. 16), rather than being strictly tied to either opinions or abilities. Additionally, it has been suggested that the motivation for social comparisons is not solely to better understand oneself (i.e., self-evaluation) but also to allow for self-improvement and self-enhancement (Gibbons & Buunk, 1999).

Directions of Social Comparisons

Social comparisons are believed to occur both automatically (i.e., we compare whether or not we intend to) and consciously (i.e., an intended comparison)(e.g., Blanton & Stapel, 2008; Collins, 1996; Gilbert et al., 1995; Stapel & Blanton, 2004). Regardless of whether a comparison occurs automatically or intentionally, there are three directions in which a social comparison can occur: upward, downward, and horizontal (De Los Santos et al., 2019; Festinger, 1954). Upward comparisons occur when an individual perceives that they do not measure up to the comparison-target (i.e., the person who they are comparing themselves to), and downward comparisons occur when an individual perceives they are superior to their comparison-target. Horizontal comparisons are those that occur when an individual perceives that they are

similar to other person (i.e., the comparer and the comparison-target are equivalent in ability, opinion, etc.)(De Los Santos et al., 2019; Festinger, 1954).

The Effects of Social Comparisons

Prior research has suggested that social comparisons have the ability to evoke positive and negative emotions, and these emotional reactions can have consequences on individuals' mental health (e.g., Appel et al., 2015; Park & Baek, 2018; Tosun et al., 2020). For instance, negative emotions such as jealousy and helplessness can transpire following upward comparisons in which an individual focuses on the differences between themselves and the people they want to be like (Park & Baek, 2018; Tosun et al., 2020). As there is a perceived lack of similarities between oneself and the person they want to be like, this can decrease self-esteem. On the other hand, when someone perceives that they have similarities with a person that they aspire to be like (i.e., a role model; one's ideal self), this can increase self-esteem (Wohlford et al., 2004).

Upward and downward comparisons have also been considered as useful ways for individuals to achieve particular goals. For example, upward comparisons can serve as a way for individuals to gain information that will help them to improve themselves as they can learn from the people they aspire to be like (Brickman & Bulman, 1977; Buunnk & Gibbons, 2007; Wood, 1989). Downward comparisons, on the other hand, can serve as a way of boosting one's self-esteem as it can make one feel better to see that there are others worse off than them (Gibbons & Gerard, 1997; Wills, 1981).

SCT and Social Media. SCT has been an important theoretical framework for explaining the effects that social media and their messages have on users' mental and

physical health. As social media users present themselves in a predominately positive light, upward comparisons are likely to occur, and this, in turn, can have negative effects (Chou & Edge, 2011; Park & Baek, 2018). Most of the research in this realm has used SCT to explain the effects of social comparisons to social media body portrayals (e.g., Bessenoff, 2006; Hargreaves & Tiggemann, 2009; Knobloch-Westerwick, 2015; Tiggemann & McGill, 2004). The present study employs SCT to explain the effects of social comparisons to motherhood portrayals. Given that mothers are human, they are likely to have an innate drive to evaluate themselves. Furthermore, as social media mothers have similarities with each other (in that they are all mothers), they are likely to serve as common comparison targets. Lastly, depending on the type of motherhood portrayal depicted by the social media user, a downward, upward, or horizontal comparison may occur.

Limited Capacity Model for Motivated Mediated Message Processing (LC4MP)

This study will use the limited capacity model for motivated mediated message processing (LC4MP) to explain how social comparisons, as a form of information processing, influence the allocation of cognitive resources to process the social media portrayals (i.e., encoding). The LC4MP (Lang, 2000; 2006; 2009) describes humans as information processors whose limited cognitive resources are allocated to process information of mediated messages (such as social media posts). The processing of information from messages involves three sub-processes occurring constantly and simultaneously: encoding, storage, and retrieval. When a message presents information that is new to the individual, the information is encoded into short-term, working

memory, processed, and stored to be retrieved at a later time (Lang, 2006; Potter & Bolls, 2012). However, it is not possible for viewers to encode and store all information that is presented to them. Instead, the level of encoding depends on the level of cognitive resources that are allocated to encoding the message. The allocation of cognitive resources is affected by both the individual and the message the individual is processing, with the allocation of cognitive resources occurring either voluntarily (controlled) or involuntarily (automatic)(Lang, 2006; Lang et al., 1996).

Controlled allocation of cognitive resources occurs as a result of the individuals' personal goals, needs, and interests. In other words, based on the individual's intent to process the message and whether it relates to their personal goals and needs, they will make decisions regarding whether or not they will view a message and how much they will concentrate (allocate cognitive resources) on the message (Geiger & Newhagen, 1993; Lang, 2006). Automatic cognitive resource allocation, on the other hand, can result from the stimuli (i.e., media message) such that novelty and motivational relevance of stimuli can elicit automatic allocation of cognitive resources to the information of the stimuli. For instance, an *orienting response* is a mechanism causing individuals' cognitive resources to automatically be allocated to new or significant information of the message, thus resulting in an increase in the level of (available) cognitive resources to process the information (Lang, 1990; Lang et al., 2009; Potter & Bolls, 2012). Structural features of a message, such as sound effects and camera movement, novel stimuli (i.e., things new to the environment), and signal stimuli (e.g., someone's name) are all examples of what can induce an orienting response (Lang,

1990). Further, message content with motivational relevance increases automatic resource allocation by activating motivation systems—appetitive and aversive. Positive stimuli correspond to appetitive motivational activation, resulting in positive emotional experience whereas negative stimuli correspond to aversive motivational activation, resulting in negative emotional experience. In general, the greater the level of motivational activation that is elicited, the more cognitive resources are allocated to process the information (Lang, 2006; Lang et al., 2009).

Within the theoretical framework of the LC4MP, when a social media user encounters a social media post, the photo and post content providing them with motivationally relevant content (i.e., content about motherhood) are likely to activate the appetitive motivational system, and as a result, automatic cognitive resource allocation will occur, with resources allocated to encoding the message. In specific, given that motherhood portrayals on social media communicate information that is likely relevant to the goals and interests of mothers on social media, increased level of automatic resource allocation may occur to process the content. However, in viewing the posts (and thus making social comparisons to the portrayals), how the information gets processed (i.e., encoding the social media post content) will be limited by the cognitive resources the viewer has and thus, the comparison process may interfere with the number of cognitive resources available because social comparisons are also an internal mental activity requiring cognitive effort (i.e., social comparisons require cognitive resources to be turned inward to process internal thoughts and cognitions)(Clayton et al., 2017; Saiphoo & Want, 2018). Thus, as the process of making

a social comparison occurs, there may be less cognitive resources available for encoding. When the cognitive resources that are required by the message exceed the cognitive resources allocated to process the message, cognitive overload occurs (Lang, 2006). So, if cognitive overload occurs as a result of the social comparisons, processing of the content will suffer, and encoding will be poor. To examine the effects of the social comparison processes on the automatic cognitive resource allocation during exposure to the portrayals on motherhood, this study will measure individuals' encoding of the Instagram posts (i.e., motherhood portrayals) by employing a recognition test. Recognition is considered to be a way of indicating how well messages are encoded into short-term memory (Lang, 2006).

Idealization of Motherhood Portrayals

In employing SCT and the LC4MP to examine the effects of Instagram motherhood portrayals on new mothers' mental health, this study considers idealization as a prominent characteristic of motherhood portrayals to be investigated. Generally, a lack of reality exists on social media, as users primarily choose to only post about the positive aspects and occurrences of their lives, leaving out mention of any hardships or failures (Tiggemann & Anderberg, 2020; Vogel & Rose, 2016). This leads social media to convey an idealized world in which people are happier and more successful than they really are (Vogel & Rose, 2016), which, in turn, increases the likelihood for upward social comparisons to occur (Chou & Edge, 2011; Park & Baek, 2018).

Historical Idealizations of Motherhood Portrayals in the Media

Idealized portrayals of motherhood are not new to the media. In fact, unrealistic representations of motherhood in the media have been pressuring women since long before social media became a channel of communication. The high standards media set for mothers is the focus of Susan J. Douglas and Meredith W. Michaels's book titled *The Mommy Myth: The Idealization of Motherhood and How it has Undermined Women*, where they introduce the term "new momism" to refer to the "set of ideals, norms, and practices, most frequently and powerfully represented in the media, that seem on the surface to celebrate motherhood, but which in reality promulgate standards of perfection that are beyond your reach" (2004, pp. 4-5). "New momism" is quite similar to "intensive mothering" — coined by Sharon Hays (1996) — in that it insists, mothers must devote everything that they have (physically, emotionally, psychologically, and intellectually) to their children — creating standards that are quite impossible to meet.

With headlines like "Happiness is Having a Baby" (*Good Housekeeping*, 1983) and "Motherhood is Sexy" (*People*, 1998), magazines in the 1980s and 1990s were an especially strong source of "new momism," communicating that having children isn't just a necessity — but also a wonderful, rewarding, experience (Douglas & Michaels, 2004). As a dominant feature of entertainment magazines, a main source of idealizations of motherhood during this time came from celebrity mom profiles. Douglas and Michaels (2004) consider these profiles to be "the most influential media form to sell the new momism" (p. 113), as they communicated the key features of new momism and romanticized motherhood. "Celebrity moms loved their kids unconditionally all the time; they loved being mothers all the time; they yearned for babies if they didn't have

them and yearned for more if they did. They had everything under control and their children were perfect because the celebrity moms always did everything right” (Douglas & Michaels, 2004, p. 118). The celebrity mothers were fit, gorgeous, and well-put-together, and the children only made life better — rather than creating messes, throwing tantrums, or interfering with one’s relationships or personal life. These celebrity mother profiles showed that women could be successful at having both a job and a family. Despite the fact these celebrities had lifestyles and resources that certainly made them much different from the mothers that were reading the profiles, these differences didn’t keep the celebrity profiles from having an influence on the expectations and desires of the everyday mothers (Douglas & Michaels, 2004).

Simultaneously, mothers were having greater standards placed on them by way of advertising media as well. Starting in the 1970s, advertisers saw working mothers as a huge market — given that these women were trying to navigate how they could still be good mothers while working outside of the home. Advertisements in magazines and cable television became aimed at increasing women’s concerns about their child’s safety and development, causing women to suddenly believe that, in order to be a good mother, they needed to buy certain products (e.g., bottle sanitizers and new, complex toys) in order to keep their babies safe and help with their learning and development (Douglas & Michaels, 2004, p. 11). Thus, through various forms of media — including entertainment and advertising — mothers have long been cultivated to have high standards for their motherhood experiences and to live up to the idealizations they saw of motherhood.

The Presence of Idealized Motherhood Portrayals on Today's Social Media

Now, idealized motherhood portrayals have also made their way to social media and recent research has begun to identify this. For example, Kumar and Schoenebeck (2015) examined the sharing behaviors of mothers on Facebook through semi-structured interviews with new mothers and found that mothers frequently share cute photos, funny photos, and milestone photos (e.g., first steps) but don't share low quality photos or negative photos (e.g., crying photos or photos revealing health concerns). Ultimately, mothers seemed to use their photos to indicate that they have a "happy and healthy family" (p. 1210). In another study, le Moignan et al. (2017) completed a qualitative analysis of 4,000 photographs related to children and parenting on Instagram and also found that the photos primarily consisted of idealized images. Just as Kumar and Shoenebeck (2015) found a lack of negative child and parenting-related photos posted on Facebook, it appeared to also be the case on Instagram. By carefully selecting and omitting photos, it appeared that parents shared photos on Instagram in a manner in which family life would be "represented as a happy, photogenic and cohesive experience in which the positives of parenting and kinships are readily apparent" (le Moignan et al., 2017, p. 4935). Further, posting on Instagram seemed to be a way for parents to communicate to others that they are good parents. The researchers detected what they perceived to be as a reluctance of parents to post photos that would communicate any type of tension, unhappiness, or difficulties, such that parents communicated an overall message that "all is well" (p. 4944). The authors pointed out that portraying everything as being fine is not something new within family photography

as photos portraying the positives of parenting have dominated family photography prior to social media. However, social media has now allowed for these portrayals to easily and instantly be shared with large audiences. Further, the ease in which photos can be taken and shared on social media has led to people sharing more of the everyday, mundane happenings of their parenting experiences (le Moignan et al., 2017).

Social media has also arguably increased the frequency that mothers generally encounter images of motherhood. While mothers in the late twentieth century encountered motherhood portrayals in magazines, the intensity of being exposed to motherhood portrayals was likely not as great as it is now as magazines were not as frequently checked and accessible as social media is today. Social media can be accessed by laptops, computers and mobile devices that are almost always kept in arms-reach. And, unlike magazines, social media doesn't even require a light to be on! Thus, late nights spent in the nursery with one's child can involve exposure to new momism by way of social media. Furthermore, while magazines required women to have a magazine nearby and deliberately take the time to open it and read, social media has begun to consumer users as a casual, effortless, ongoing task that is almost always available and commonly checked while simultaneously doing other things (e.g., caring for their children, watching television, waiting at the doctor's office). Thus, while motherhood portrayals have appeared in the media before, new media has led exposure to motherhood portrayals to be heightened.

Ultimately, there is an abundance of idealized motherhood portrayals to which other mothers might make comparisons to that could, in turn, affect their perceptions

of how motherhood should look and could affect their mental well-being as they feel pressure to meet the ideal they see portrayed (le Moignan et al, 2017).

Social Comparisons to Idealized Social Media Portrayals

Outside of the realm of motherhood, social comparison research has indicated that idealized Instagram portrayals elicit upward social comparisons. For example, Fardouly et al. (2017) had undergraduate females report comparisons they had made in response to appearance comparisons on traditional media, social media, and in person, and found that idealized presentations on social media resulted in extreme upward comparisons.

Experimental research has tried to show the causal effects of comparisons to idealized social media portrayals. Fardouly and Rapee (2019) exposed participants to multiple selfies in which the person in the selfie photo was wearing makeup (i.e., idealized). Interspersed within these makeup selfies were no-makeup selfies (i.e., more natural). They found that interspersing the no-makeup (natural) selfies helped to alleviate a negative effect of facial dissatisfaction that participants had after being exposed to only the makeup (idealized) selfies. Tiggemann and Zinoviev (2019) compared the effects of enhanced images (women featured in the image were thin and attractive, with smooth skin and makeup and the colors of the photo were bright to imply digital color alteration) vs. enhancement-free images (the same women were featured but with little to no makeup, their skin had blemishes, and the colors of the photo appeared more natural) on Instagram and found the enhancement-free images resulted in less facial dissatisfaction than the enhanced images. In another study,

Tiggemann and Anderberg (2020) tested three types of Instagram posts — 'Instagram vs. reality' images (images containing side-by-side photographs of the same woman, one an idealized depiction and the other a more natural depiction) vs. the 'ideal' image only vs. the 'real' image only — and found that detrimental effects of appearance comparisons (i.e., body dissatisfaction) were much lower for the real images and 'Instagram vs. reality' images, compared to the ideal images.

As these studies found idealized Instagram portrayals to have negative effects as a result of upward social comparisons, it may also be the case that this occurs in regard to motherhood portrayals as well.

Processing of Idealized Portrayals

While empirical research has not taken an information processing approach that examines specifically how social comparisons to idealized portrayals on social media affect cognitive resource allocation, Clayton et al. (2017) did conduct an experiment that looked at how engaging in social comparisons influences cognitive resource allocation during general media exposure. In their experiment, women with an actual-ideal self-discrepancy were exposed to mediated images of fashion models that varied in body type (thin, average, and plus-sized). Due to their perceived discrepancy, Clayton et al. (2017) expected the women would consciously engage in social comparisons to the models. They expected these social comparisons to be greatest during upward comparisons (i.e., when viewing the thin-sized models), as prior research (Tiggemann & McGill, 2004) had shown body comparisons were greater in response to seeing images of one's ideal body. By arguing that social comparisons are an internal mental activity

requiring cognitive resources and by employing the LC4MP prediction that external attention suffers when resources are shifted from encoding to storage and retrieval (internal cognitive activities), Clayton et al. (2017) predicted that as the thin-sized models resulted in the greatest social comparisons, these models would then result in the fewest resources allocated to encoding (as the resources were shifted from external processing to internalized engagement in social comparison). Meanwhile, as less comparison was made to average and plus-sized models, there was expected to be greater resources allocated to encoding when viewing these models (in comparison to the thin models). Thus, they hypothesized that encoding would be better for the images of the plus sized-models (less social comparison), compared to the thin-sized models (more social comparison). With a visual recognition task that asked participants to correctly identify models they had seen in the study, they found support for the hypothesis, with encoding suffering the greatest when women engaged in the greatest amount of comparison. While their study did not specifically examine the case of idealized content on social media (and instead focused solely on images), it provides preliminary insight into the effects that the social comparison processing has on cognitive resource allocation, and given that the thin-sized models in their study were believed to serve as “ideal” people and result in upward comparison, it may help to provide understanding of how idealized portrayals of motherhood will be processed (as they, too, are expected to result in upward comparison). Their study also illustrated that social comparison, in general, was greater (i.e., more comparison occurred) during upward comparisons.

In another study, Saiphoo and Want (2018) tested the cognitive efficiency of making social comparisons by manipulating participants' cognitive load (i.e., participants memorized either a simple or complex sequence of colors) while they viewed images of models. They found that social comparisons are not highly cognitive efficient. Rather than being an effortless process, social comparisons require cognitive effort — thus taking up available cognitive resources.

Hypothesized Effects of Idealization of Motherhood Portrayals

Idealization of motherhood portrayals is defined in this study as the degree to which the posts on Instagram portray motherhood to be perfect or better than reality. This includes two levels: idealized and non-idealized. Idealized portrayals are those which present idealistic, admirable images of motherhood that are solely focused on the positive aspects of parenting and do not make mention of difficulties (i.e., problems or challenges) that are faced while parenting. On the other hand, non-idealized portrayals are those that present more authentic, non-idealistic images of motherhood that include mention of the difficulties associated with parenting rather than only focusing on the positive aspects of parenting. This study investigates the effects of idealization of motherhood portrayals on the outcomes of perceived similarity, social comparison, feelings of envy, state anxiety, feelings of parental competence, life satisfaction, and encoding of information (i.e., recognition).

Effects on Perceived Similarity. As the idealized portrayals of motherhood in this study solely portray motherhood as a positive experience and leave out mention of the difficulties associated with motherhood, they romanticize motherhood and fall under

the classification of new momism rather than providing a realistic representation of a mother's experience (Douglas & Michaels, 2004). As a result, it is expected that these portrayals of motherhood will likely seem to be quite different than the actual motherhood experience had by mothers in this study. Meanwhile, the non-idealized portrayals of motherhood in this study are expected to be perceived as more similar to the parenting experience of the mothers in this study, because they mention the difficulties of parenting rather than only painting motherhood in a romanticized, positive light. This is tested with the study's first hypothesis, which states:

H1: The non-idealized portrayals of motherhood will result in greater perceived similarity, compared to the idealized portrayals of motherhood.

Effects on Social Comparison. As stated by social comparison theory (Festinger, 1954), we, as humans, compare ourselves to others that we deem to be "attractive" (in terms of some attribute or ability that we admire), and such upward comparisons are especially common because humans, in nature, are motivated to improve ourselves. While recent research has begun to provide evidence that social comparisons are more likely in response to someone who is perceived as superior (i.e., upward comparisons)(e.g., Clayton et al., 2017), it could be expected that the idealized portrayals of motherhood (compared to the non-idealized portrayals) in this study will result in greater social comparisons. At the same time, however, social comparisons are more commonly made to individuals perceived as similar to the comparer because they serve as a more relevant comparison target (Festinger, 1954). Thus, as the non-idealized portrayals of motherhood in this study are expected to result in greater perceptions of

perceived similarity (between the participant and the mother that the Instagram post comes from), it may be the case that the non-idealized portrayals result in greater social comparisons. In other words, while idealized portrayals may lead to greater comparisons as a result of their attractiveness, non-idealized portrayals may lead to greater comparisons as a result of their similarity (to the experiences of the Instagram users who are seeing the posts). To see which post type results in greater self-reported comparison, this study asks:

RQ1: How will the idealization of the motherhood portrayals affect social comparison?

Effects on Feelings of Envy. As suggested by prior research (e.g., Park & Baek, 2018; Tosun et al., 2020), comparisons to someone perceived as superior (i.e., an upward comparisons), can cause individuals to have negative emotional responses, such as feelings of depression and envy. These negative emotional responses are the result of the individual realizing that there is a discrepancy between themselves and the person they aspire to be like. Envy, specifically, is “the unpleasant emotion that can arise when we compare unfavorably with others” (Smith & Kim, 2007, p. 46), such as during an upward social comparison, as the target comparison has something that the comparer does not have (Festinger, 1954). Prior research has reported that social comparisons on social media lead to audiences’ feelings of envy. For example, Appel et al. (2015) presented individuals with Facebook profiles that conveyed either attractive or unattractive profile owners, and found that the attractive profiles resulted in individuals perceiving themselves as inferior and having feelings of envy. Thus, it is expected that:

H2: The idealized portrayals of motherhood will result in greater feelings of envy, compared to the non-idealized portrayals of motherhood.

Effects on State Anxiety. As the idealized posts cause mothers to develop feelings of envy, this could, in turn, have significant effects on their levels of state anxiety and their psychological health. Envy has previously been found to mediate the relationship between Facebook use and negative outcomes such as decreased life satisfaction and depression in other comparison domains (e.g., Krasnova et al., 2013; Tandoc et al., 2015), and, as Vogel and Rose (2016) suggest, it may be the case that as individuals view idealized versions of others' lives, this leads to envy which then causes the individuals to have negative perceptions of their own lives and feel poorly. This study predicts that as the mothers in the study make comparisons to the mothers they see online (and have feelings of envy), they may begin negatively thinking about their own parenting experiences (i.e., negative cognition) and also have feelings of anxiety.

In their online survey examining how Instagram and Facebook use influence the mental health of new mothers with perfectionism, Padoa and colleagues' (2018) mediation models suggested that mothers who feel a pressure to meet society's expectations for parenting engage in comparisons while on social media and this contributes to symptoms of anxiety. However, as with other studies (e.g., Schoppe-Sullivan et al., 2017), the cause of the effects on the mothers' mental health was not certain. It's possible that mothers with perfectionism increase their social media activity as a means of gaining support or external validation from others, and this increased amount of activity (and potentially a lack of received validation) causes the negative

effects. Or, it could be that the negative effects are the result of increased exposure to presentations of positive portrayals of motherhood.

Henderson et al. (2016) examined the general relationship between pressures to be the perfect mother and psychological well-being for modern mothers and found correlations suggesting that mothers who feel pressure to be perfect experience low self-efficacy and have higher levels of stress. Importantly, however, their study suggested that women who do *not* subscribe to the “perfect mother” ideologies are also at risk for experiencing increased stress and anxiety. Based on these findings, social comparisons may have detrimental effects on anxiety levels for all mothers — not just those who are generally concerned with being perfect mothers. This study hopes to build on the past research in this realm and illustrate a causal relationship between idealization of motherhood portrayals on Instagram and state anxiety by predicting that:

H3: The idealized portrayals of motherhood will result in greater levels of state anxiety, compared to the non-idealized portrayals of motherhood.

Effects on Feelings of Parental Competence. Past research (e.g., Henderson et al., 2016) has found an inverse relationship between pressure to be a perfect mother and self-efficacy (in terms of parenting efficacy). Relatedly, comparison research has shown online comparisons influence outcomes such as self-esteem and self-evaluation. For example, in the experiment by Vogel and colleagues (2014) in which participants were manipulated to make upward and downward comparisons (comparing one’s level of healthiness), it was found that the upward comparisons resulted in lower self-esteem and self-evaluations. And, within the domain of motherhood comparisons, Coyne et al.

(2017) found making social comparisons on social networking sites was related to higher levels of parental role overload and lower levels of parental competence. Their study did not test causation but suggested that comparisons to motherhood may cause mothers to feel that they don't measure up to other moms or that they have a hard time parenting when it appears easy for others.

As a result of this prior research, it is expected that in addition to increasing levels of state anxiety, the social comparisons to idealized portrayals will also have an effect on mothers' perceived parental competence. To investigate the potential of a causal relationship between portrayals of motherhood and perceived parenting competence, Hypothesis 4 predicts:

H4: The idealized portrayals of motherhood will result in lower feelings of parental competence, compared to the non-idealized portrayals of motherhood.

Effects on Life Satisfaction. Next, it is expected that, in addition to affecting envy, state anxiety, and parental competence, the idealized portrayals they will also result in lowered life satisfaction. By affecting emotional states, social comparisons have been found to play a role in the parenting satisfaction of mothers (e.g., Amaro et al., 2019). And, as new momism has perpetuated the media, its caused many mothers to be dissatisfied with their mothering experience (Douglas & Michaels, 2004). Thus, seeing other mothers have seemingly more ideal experiences as a parent may cause some mothers to be dissatisfied with their own lives. To test this, the next hypothesis states:

H5: The idealized portrayals of motherhood will result in lower life satisfaction, compared to the non-idealized portrayals of motherhood.

Effects on Encoding. Lastly, this study will test the effects of the idealization of motherhood portrayals on the participants' encoding of the information in the portrayals by employing a recognition test. As prior research (Clayton et al., 2017) has shown that cognitive resources available for encoding may suffer as a result of high levels of social comparison occurring, it may be the case that as portrayals of motherhood increase levels of comparison, encoding of the Instagram post (i.e., the motherhood portrayal) will suffer. However, this will depend on whether or not the level of comparison results in cognitive overload. So long as there is no cognitive overload, defined as cognitive resources *allocated* is less than cognitive resources *required*, encoding will be better for greater social comparison. However, when there is cognitive overload, encoding will be poor as a function of social comparison. To explore this, the study asks:

RQ2: How will the idealized portrayal of motherhood, compared to the non-idealized portrayal of motherhood result in recognition?

Source of Motherhood Portrayals

In addition to examining the idealization of motherhood portrayals, this study also examines the effect of the source of motherhood portrayals (i.e., who the motherhood portrayal is coming from) since motherhood portrayals can come from a variety of different types of mothers on social media. For instance, in addition to encountering motherhood portrayals from friends, family members, and peers that they know in real life (i.e., outside of social media), it is also common for users to see motherhood portrayals from social media influencers. Mommy influencers (also

sometimes referred to by terms such as “InstaMums”), post on Instagram about their child and motherhood experiences as a means of attracting Instagram followers and making money. By cultivating a large number of followers, mommy influencers attract (or hope to attract) the attention of sponsors who offer them money in exchange for mentioning brands and products to their large audience (Bahler, 2019; Moujaes & Verrier, 2020). Often, this includes posting photos of themselves or their children with certain brand-name clothing, toys, or parenting-related products. While mommy influencers may genuinely want to share moments of their life and their child’s life with their followers, they differ from an everyday mother on Instagram in that they either make money or hope to make money as a result of their posts. While this differentiates them from the everyday mother, mommy influencers often try to portray themselves as normal people and as friends to their followers (Abidin, 2016; Chae, 2014; Moujaes & Verrier, 2020).

In understanding the mechanism of Instagram use, it’s important to point out the differences in the relationships that an Instagram user has with these two source types. Typically, social media users are someone that an Instagram user has never met in real life. The user does not have an interpersonal relationship with the influencer, but has consciously chosen to “follow” (i.e., have that users’ posts appear in one’s personal Instagram feed and have access to their profile) the influencer to see the content they post. On the other hand, if a typical Instagram user follows a regular mom on Instagram, this is likely because the user has an interpersonal connection to that mom in real life (i.e., they are a friend, family member, co-worker, peer, etc.). In other words, Instagram

users typically personally know the non-influencer users they follow on Instagram but do not have a personal relationship with influencers. In either case, an Instagram user consciously chooses to “follow” either type of user (mommy influencer or everyday mother) on social media and thus, that is how they see their content.

Like everyday mothers, mommy influencers have also been found to contribute to the overwhelming presence of idealized motherhood portrayals (and lack thereof of more realistic, authentic content). While common, modern technology (e.g., iPhone cameras) and minor photo editing skills can help everyday mothers curate picture-perfect, idealized portrayals of motherhood, posts from mommy influencers are sometimes even more idealized as mommy influencers may have additional means (e.g., time, money and resources) to stage and edit their posts. In fact, some posts may be entirely fake, as some influencers have gone so far as renting an extravagant house just for the sake of being able to have a photoshoot and pretend they live there (Bahler, 2019). Overall, while mommy influencers differ from everyday mothers, both, at times, curate idealized portrayals of their motherhood experiences to share with others.

In looking at the impact of social media influencers on female adults by way of social comparisons, Chae (2018) found that women commonly make comparisons and feel envy in response to influencer posts that display aspects of influencers’ daily lives (e.g., shopping, time with friends, leisure time). And, in the case of the social media influencers’ posts being inauthentic (i.e., fake or staged), females are envious about something that is not actually real for the person (i.e., influencer) who posted it. While social comparison theory requires that individuals make comparisons to people similar

to them, Chae (2018) states that influencers are similar enough for people to make comparisons to them, describing influencers as falling “somewhere between distant friends and acquaintances and traditional celebrities” (p. 249). Influencers often have similarities with everyday social media users, and these similarities make comparisons more likely to happen (Chae, 2018). In the case of mommy influencers, specifically, these influencers are similar to ordinary social media moms in that they are mothers too. Furthermore, prior research has found that mommy influencers present themselves on Instagram as typical mothers and are often compared to by other moms (Moujaes & Verrier, 2020). Rather than instantly making upward comparisons to mommy influencers because of their influencer status, users have perceived them as “exemplars to be emulated and as good candidates for similar (rather than upward or downward) comparison by their followers” (Moujaes & Verrier, 2020, p. 3). As these influencers are perceived as somewhat similar to the users, and have related qualities in that they are also mothers, ordinary mothers make comparisons to them. And, since mommy influencers commonly present idealized images of motherhood (Bahler, 2019), they may be creating unrealistic expectations in new mothers (Djafarova & Trofimenko, 2017; Moujaes & Verrier, 2020).

Hypothesized Effects of Source of Motherhood Portrayals

Source of motherhood portrayals is defined in this study as the person who is making the portrayal of motherhood on Instagram. This includes two levels: a mommy influencer or an everyday social media mom. A mommy influencer is a verified (i.e., has a blue badge with a checkmark on their profile to indicate to users that their account is

the authentic presence of a public figure or celebrity) Instagram user who has a large following of other users who trust their thoughts and opinions and who engage in their posted content. An influencer posts photos as a means of keeping their large following of users engaged in their content, which, in turn, allows them to attract sponsors and make money through promotion of brands either directly or indirectly. An everyday social media mother does not have a verified account (as they are not a known public figure or celebrity) and does not post content with the intent to attract followers to make money.

Effects on Similarity. As the participants in this study will likely be everyday social media mothers themselves (rather than social media influencers), they will likely perceive greater similarity to the everyday mother source:

H6: Motherhood portrayals from everyday mothers will result in greater levels of perceived similarity, compared to the motherhood portrayals from the mommy influencers.

Effects on Social Comparison. Because social comparisons are more likely to be made to individuals that are similar in terms of some relevant attribute or characteristic (e.g., social comparison theory; Festinger, 1954; Goethals & Darley, 1977), it could be expected that social comparisons will be stronger to motherhood portrayals coming from everyday mothers (rather than mommy influencers). That said, as research looking at comparisons made to social media influencers has found that influencers are similar enough for everyday people to make comparisons to them (e.g., Chae, 2018), everyday mothers may make comparisons to mommy influencers too and feel envious as a result

(Chae, 2018). Thus, the effect that portrayals from mommy influencers will have in comparison to everyday mothers is unknown. Perhaps comparisons will be stronger to everyday mothers, as a result of the increased similarity between everyday users and the target comparison (i.e., the everyday mothers). Or, perhaps there will not be a difference in comparison to the different sources of portrayals (influencer vs. everyday mother) as research has shown comparisons are commonly made to influencers. To see which source of portrayals results in stronger comparisons, this study asks:

RQ3: How does the source (i.e., mommy influencer vs. everyday mother) of motherhood portrayals affect social comparison?

As it is unclear which source will result in stronger comparisons, it is also unclear as to which source of portrayals will have more detrimental outcomes. Mothers making comparisons to mommy influencers may be especially envious of influencers because of the luxurious lives they lead and the opportunities they have that everyday mothers may not have (e.g., more money, help with childcare, and the ability to stay home with children instead of work). Thus, mothers may feel extra critical about themselves in comparison and mommy influencers as a source of motherhood portrayals may be especially detrimental. Or, it could be the case that mothers are less critical of themselves in comparison to influencers and are more critical in comparison to portrayals from everyday mothers, as these are mothers who have more similar attributes to them. To explore this, the next research question asks:

RQ4-f: How does the source (i.e., mommy influencer vs. everyday mother) of motherhood portrayals affect **a)** feelings of envy, **b)** state anxiety, **c)** feelings of

parental competence, **d)** life satisfaction, and **f)** recognition?

Interaction of Idealization of Motherhood Portrayals and Source of Motherhood

Portrayals

Additionally, this study is interested in investigating how the idealization of the motherhood portrayals interacts with the source of the motherhood portrayals to affect the outcome variables. Thus, this study asks:

RQ5-g: How do idealization of motherhood portrayals and source (i.e., mommy influencer vs. everyday mother) interact to influence **a)** perceived similarity, **b)** social comparison, **c)** feelings of envy, **d)** state anxiety, **e)** feelings of parental competence, **f)** life satisfaction, and **g)** recognition?

Effects of Individual Difference Variables

Lastly, this study explores how individual differences (i.e., audience characteristics) among new mothers interact with the portrayals of motherhood to influence the outcomes of interest by specifically examining the interacting effects of the mother's parenting status (whether or not they are a first-time mom), self-esteem, social comparison orientation, and Instagram usage (number of followers, time spent on Instagram, and "Instagram Intensity" as individual difference variables). Individual differences have been considered to be an important factor in the extent to which people make comparisons with others (Buunk & Gibbons, 2007), and certain individual characteristics (e.g., pre-existing appearance concerns; Want, 2009) have been found to cause certain interaction effects in domains such as body image. Thus, individual

differences may also have interaction effects in the domain of motherhood comparisons as well.

Mother's Parenting Status

While all mothers arguably want to be the best moms they can be, first-time mothers are not as experienced as other moms and thus may have greater uncertainties and less confidence in their parenting (Chae, 2015). They may also feel more pressure to maintain a positive parenting image as they're being judged as a parent for the first time (Djafarova & Trofimenko, 2017).

As stated by the social comparison theory literature, individuals high in uncertainty are more likely to engage in social comparisons as a means of enhancing their self-concept (Gibbons & Buunk, 1999). Further, research has found that self-uncertainty and a lack of confidence is an important factor in social comparisons. For example, Lee (2014) found that people who are less certain about themselves make more comparisons on Facebook, and Chae (2015) found that frequent comparers have a tendency to evaluate themselves and that this tendency is due to their lack of confidence.

Based on this information, it is expected that the idealization of motherhood portrayals will have stronger social comparison and comparison effects among first time parents, such that:

H7a-f: The effects of idealized portrayals of motherhood on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life

satisfaction, and **f**) recognition will be stronger among first-time mothers, compared to non-first-time mothers.

To explore if mothers' parenting status interacts with the effects of the source, the following research question is asked:

RQ6a-f: How do mothers' parenting status and source interact to influence **a**) social comparison, **b**) feelings of envy, **c**) state anxiety, **d**) feelings of parental competence, **e**) life satisfaction, and **f**) recognition?

Self-Esteem

A common characteristic found to play an important role in the frequency and effect of social comparisons is the comparer's level of self-esteem. Generally, people with low self-esteem have been found to seek social support and approval and tend to be more vulnerable to the opinions of others (Bearden et al., 1989; Kropp et al., 2005). Further, self-esteem has been negatively correlated with upward comparisons (Krizan & Bushman, 2011). In the realms of social comparisons on social media, Ahadzadeh et al. (2017) found a moderating effect of self-esteem such that Instagram's negative effect on body satisfaction was stronger among individuals with low self-esteem, and Lee (2014) found a negative relationship between self-esteem and social comparison frequency on Facebook among college students and also found that those with reduced self-esteem were more likely to experience negative feelings as a result of the comparisons. In their investigation of the relationship between engagement with "InstaMums" and anxiety for new mothers, Moujaes and Verrier (2020) found that self-esteem moderated the relationship between online engagement with InstaMums and

anxiety. Thus, individuals with higher levels of self-esteem may be less likely to experience negative effects (Moujaes & Verrier, 2020).

Based on these findings, it is expected that the idealization of motherhood portrayals will have stronger social comparison and comparison effects among mothers with low self-esteem, such that:

H8a-f: The effects of idealized portrayals of motherhood on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **f)** recognition will be stronger among mothers with low self-esteem.

And to investigate if self-esteem interacts with the source, the following research question is asked:

RQ7a-f: How do self-esteem and source interact to influence **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **f)** recognition?

Social Comparison Orientation (SCO)

This study will also investigate the prior suggestion that mothers with lower social comparison orientation (SCO) may be protected against negative effects (see de Vries et al., 2018). SCO refers to the individuals' inclination to use social comparisons as a means of evaluating themselves, with individuals high in SCO "characterized by a strong interest in what others feel, a strong empathy for others, and a general sensitivity to the needs of others" (Buunk & Gibbons, 2007, p. 13). Individuals with an inclination for social comparisons have been found more likely to engage in comparisons

on social media (Lee, 2014), and SCO has been found to be significant for motherhood comparisons. For example, engagement with “InstaMums” was associated with increased anxiety for mothers with higher SCO in Moujaes and Verrier’s (2020) study, and exposure to celebrity mother discourse and online childrearing information was associated with SCO in the study by Chae (2015). And, relatedly, Schoppe-Sullivan et al.’s (2017) study showed that mothers who were concerned with external validation of their identities as mothers reported stronger emotional reactions to Facebook content.

Based on this data, this study tests the interaction effect of SCO in this context of motherhood comparisons and hypothesizes:

H9a-f: The effects of idealized portrayals of motherhood on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **f)** recognition will be stronger among mothers with high social comparison orientation (SCO).

To see if social comparison orientation interact with the source, the following research question is asked:

RQ8a-f: How do social comparison orientation (SCO) and source interact to influence **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **f)** recognition?

Instagram Usage

Lastly, this study considers mothers’ social media habits, specifically in terms of Instagram use, as a potential variable that could interact with the effects of the portrayals’ idealization and source. Lee (2014) found a positive correlation between

'Facebook Use Intensity' and social comparison frequency on Facebook but was unable to provide conclusion on which caused which (i.e., did Facebook use cause the comparisons or did being inclined to socially compare lead to more intense Facebook use?). Further, Moujaes and Verrier (2020) also investigated social media use (Instagram use) as a potential moderator in their associational, cross-sectional design looking at "InstaMums" and anxiety, but they did not find an effect. Thus, this study hopes to provide clarity on whether or not Instagram usage has an interaction effect in this context by asking:

RQ9a-f: How do Instagram use and idealization of the motherhood portrayals interact to influence **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **g)** recognition?

And lastly, to explore if Instagram use interacts with the source, the following research question is asked:

RQ10 a-f: How do Instagram use and source interact to influence **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **g)** recognition?

Chapter 3: Method

Experimental Design and Stimuli

This study employed an online experiment with 2 (idealization of motherhood portrayal: idealized vs. non-idealized) X 2 (source of motherhood portrayal: mommy influencer vs. everyday social media mom) X 5 (message repetition) within-subjects factorial design. The *idealization of motherhood portrayal* and *source of motherhood portrayal* factors were completely crossed, creating four conditions: idealized portrayals from a mommy influencer, non-idealized portrayals from a mommy influencer, idealized portrayals from an everyday social media mother, and non-idealized portrayals from an everyday social media mother. For each of the four conditions, there were 5 different messages (i.e., 5 different Instagram posts), resulting in 20 Instagram posts for the experiment. The stimuli used in the experiment were real Instagram posts portraying motherhood, taken from the public Instagram accounts of mommy influencers and everyday social media moms. Thus, of the motherhood portrayals taken from mommy influencers' Instagram accounts, half of them ($n = 5$) depicted idealized portrayals of motherhood and half of them ($n = 5$) depicted non-idealized portrayals of motherhood. The same was true for the motherhood portrayals taken from the everyday social media moms' Instagram accounts ($n = 5$ for idealized and non-idealized conditions respectively). Samples of the stimuli can be found in Appendix A.

All posts selected for the experiment included portrayals of both the mother and her child in the Instagram photo. For the social-media-influencer conditions, the Instagram posts were used without modification (i.e., names of the users) since the

social media influencers are considered public figures. For the Instagram posts from everyday social media moms, the names of the Instagram users and the names of their children (when included in the posts) were edited and replaced with fake names to allow for privacy. Also, even though all of the Instagram posts were publicly available to see (by way of hashtag use and public accounts), the account owners of the posts chosen for the everyday-social-media-mom condition were contacted on Instagram via direct message, informed about the study and its purpose, and given the opportunity to opt out of having their post included. This was done because the researcher felt that it would be a good practice to allow for the Instagram post owners to opt out if they'd like, given these posts portrayed images of the users' children. This opt-out strategy was modeled after a study by Pater et al. (2016). Three of the Instagram users who were contacted chose to opt out from having their post included. Posts were only included in this condition from Instagram users who did not opt out.

Before the experiment, a pretest was conducted to finalize the set of experimental stimuli (i.e., 20 Instagram posts) while ensuring the manipulation of the idealization of motherhood portrayals factor such that the idealized motherhood portrayals were found to be perceived as significantly more idealized than the non-idealized motherhood portrayals or vice versa. A total of 94 mothers recruited on Facebook completed the pretest in which a total of 53 posts were rated on realism and idealism. In specific, in the pretest, participants rated the Instagram posts (i.e., the motherhood portrayals) using a 7-point scale of two items testing how realistic (*1 = not at all realistic, 7 = very realistic*) and how idealistic (*1 = not at all idealized, 7 = very*

idealized) the posts were. The posts with the highest scores for realism were chosen as the stimuli for the non-idealized condition, and the posts with the highest scores for idealism were chosen as the stimuli for the idealized condition. Among these final stimuli ($N = 20$), the idealized posts ($n = 10$; $M = 4.311$, $SD = .628$) were found to be rated as significantly more idealized than the non-idealized posts ($n = 10$; $M = 1.859$, $SD = .751$), $F(1, 93) = 475.983$, $p < .001$, partial $\eta^2 = .837$, while the non-idealized posts ($n = 10$; $M = 4.590$, $SD = .386$) were found to be rated as significantly more realistic than the idealized posts ($n = 10$; $M = 2.021$, $SD = .647$), $F(1, 93) = 1313.777$, $p < .001$, partial $\eta^2 = .93$. In addition, individual t -tests were conducted to compare individual posts in the ideal condition to individual posts in the non-ideal condition to ensure that the individual posts significantly different in terms of idealism.

Independent Variables

Idealization of Motherhood Portrayals

Idealization of motherhood portrayals was defined as the degree to which the posts on Instagram portrayed motherhood to be perfect or better than reality. This included two levels: idealized and non-idealized. Idealized portrayals were those that presented idealistic, admirable images of motherhood that were solely focused on the positive aspects of parenting and did not make mention of difficulties (i.e., problems or challenges) that are faced while parenting. On the other hand, non-idealized portrayals were those that presented non-idealistic images of motherhood that included mention of the realities and difficulties associated with parenting rather than only focusing on the positive aspects of parenting.

Manipulation check. In the experiment, each of the Instagram posts was rated on the following item: “The way motherhood was portrayed in the Instagram post I just saw was...” (1 = *very realistic*, 7 = *very idealistic*). The idealized portrayal manipulation was confirmed as there was a significant difference between the idealized portrayals and the non-idealized portrayals, $F(1, 463) = 410.171, p < .001$, partial $\eta^2 = .470$. The idealized motherhood portrayals were rated as significantly more idealized ($M = 4.440, SD = 1.457$) than the non-idealized motherhood portrayals ($M = 2.698, SD = 1.582$).

Source of Motherhood Portrayals

Source of motherhood portrayals referred to who was making the portrayal of motherhood on Instagram. This included two levels: a mommy influencer or an everyday social media mother. Mommy influencers in this study included Instagram mothers with a verified Instagram status (i.e., they have a blue badge with a checkmark on their profile to indicate to users that their account is the authentic presence of a public figure or celebrity), who had more than 10,000 followers, and who posted photos as a means of keeping their large following of users engaged in their content, in turn, allowing them to attract sponsors and make money through promotion of brands either directly or indirectly. Everyday social media mothers in this study did not have a verified account (as they are not a known public figure or celebrity), had less than 10,000 followers, and did not post on Instagram as a way to generate sponsors and money.

Individual Difference Variables

Parenting Status

Parenting status referred to whether or not a participant was a first-time mother. Participants indicated the number of children they had and the ages of their children. Participants with only one child, or who had multiple children of the same age indicating multiples (i.e., twins, etc.), were considered first-time mothers ($n = 180$, 38.8%).

Self-Esteem

Self-esteem was measured with the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Participants responded on a 7-point scale to 10 items ($1 = \textit{strongly disagree}$, $7 = \textit{strongly agree}$): 1) On the whole, I am satisfied with myself, 2) At times I think I am no good at all (*reverse coded*), 3) I feel that I have a number of good qualities, 4) I am able to do things as well as most other people, 5) I feel I do not have much to be proud of (*reverse coded*), 6) I certainly feel useless at times (*reverse coded*), 7) I feel that I am a person of worth, at least on an equal plane with others, 8) I wish I could have more respect for myself (*reverse coded*), 9) All in all, I am inclined to feel that I am a failure (*reverse coded*), 10) I take a positive attitude toward myself. After reverse coding necessary items, all 10 items were averaged to create a self-esteem score for each participant — with a higher score indicating higher self-esteem. Then, a median split was performed to split the participants into two groups: low (< 4.7) and high self-esteem (> 4.7).

Social Comparison Orientation

Social Comparison Orientation (SCO) was measured with Chae's (2015) adapted version of Buunk & Gibbons's (2006) Iowa-Netherlands Comparison Orientation

Measure. Chae's adaptation uses six of the original items, reworded to describe mothers' SCO. Participants responded on a 7-point scale to the 6 items (*1 = strongly disagree, 7 = strongly agree*): 1) I often compare how my little one is doing with how other kids are doing, 2) I always pay a lot of attention to how I do as a mother compared with what other mothers do, 3) If I want to find out how well I have done as a mother, I compare what I have done with what other mothers have done, 4) I often like to talk with other mothers about mutual opinions and experiences, 5) I always like to know what other mothers in a similar situation would do, 6) If I want to learn more about mothering, I try to find out what other mothers think about. The first three items of the scale are about comparison of abilities while the last three items of the scale are about comparison of opinions. All six items were averaged to create a SCO score for each participant, with a higher average indicating a greater inclination to compare oneself to others. A median split was performed to create two groups: participants with low SCO (< 5.3) and participants with high SCO (> 5.3).

Instagram Use

Instagram use was operationalized in three different ways: time spent on Instagram, number of followers, Instagram Intensity.

Time spent on Instagram. To measure time spent on Instagram, participants were asked: In the past week, on average, approximately how much time per day have you spent on Instagram? (*less than 10 minutes, 10-30 minutes, 31-60 minutes, 1-2 hours, 2-3 hours, more than 3 hours*). Then, because the average amount of time spent on Instagram by most Instagram users is about 30 minutes (eMarketer, 2020),

participants were grouped into one of two categories: participants who spend less than 30 minutes on Instagram per day ($n = 148$) and participants who spend more than 30 minutes on Instagram per day ($n = 195$).

Number of followers. To measure the number of followers, participants were asked: About how many total Instagram followers do you have? A median split was performed to create two groups of participants: those with less than 300 followers and those with more than 300 followers.

Instagram Intensity. Instagram Intensity referred to how intensely involved participants are with Instagram and was measured with six items from an adapted form of Ellison et al.'s (2007) scale for Facebook Intensity. This scale was originally developed to gauge how emotionally connected participants are to Facebook, as well as the extent to which Facebook is integrated into their everyday life. To modify the scale for Instagram, the use of the word "Facebook" in the selected scale items was replaced with the word "Instagram." Participants responded to six items on a 7-point scale ($1 =$ *strongly disagree*, $7 =$ *strongly agree*): 1) Instagram is part of my everyday life, 2) I am proud to tell people I'm on Instagram, 3) Instagram has become part of my daily routine, 4) I feel out of touch when I haven't logged onto Instagram for a while, 5) I feel I am part of the Instagram community, and 6) I would be sorry if Instagram shut down. All six items were averaged to create an Instagram Intensity score for each participant, with a higher average indicating a greater inclination to compare oneself to others. A median split was performed to create two groups: participants with low Instagram intensity (< 4.8) and participants with high Instagram Intensity (> 4.8).

Dependent Variables

Perceived Similarity

Perceived similarity was measured with one item: How similar do you think you are to the mother you saw in the Instagram posts? (1 = *not at all similar*, 7 = *very similar*).

Social Comparison

Social comparison was measured using two items adapted from Tiggemann and Anderberg (2020). Participants responded to 2 items on a 7-point scale (1= not at all, 7 = a lot): 1) How much did you think about your experience as a mother when viewing this social media post? and 2) How much did you compare your experience as a mother to the experience of the mother seen in the social media post? Reliability (Cronbach's α) was .941 (idealized, influencer condition), .900 (non-idealized, influencer condition), .938 (idealized, everyday mother condition), and .916 (non-idealized, everyday mother condition).

Envy

Envy was measured using three items adapted from Chae (2018). Participants responded to 3 items on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*): 1) I envy this social media users' life shown on social media, 2) My life is inferior to this social media users' life shown on social media, and 3) I wish to live like this social media user. Reliability (Cronbach's α) was .962 (idealized, influencer condition), .968 (non-idealized, influencer condition), .972 (idealized, everyday mother condition), and .970 (non-idealized, everyday mother condition).

State Anxiety

State anxiety was measured with the 6-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (Marteau & Bekker, 1992). Participants indicated how calm (*reverse coded*), tense, upset, relaxed (*reverse coded*), content (*reverse coded*), and worried (*reverse coded*) they felt by responding on a 7-point scale (*1 = not at all, 7 = very much so*). Reliability (Cronbach's α) was .873 (idealized, influencer condition), .868 (non-idealized, influencer condition), .880 (idealized, everyday mother condition), and .877 (non-idealized, everyday mother condition).

Parental Competence

Parental competence was measured using a shortened version of the efficacy subscale of Johnston and Mash's (1989) Parenting Sense of Competence Scale (PSOC). Participants responded to 3 items on a 7-point scale (*1 = strongly disagree, 7 = strongly agree*): 1) I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent, 2) Being a parent is manageable, and any problems are easily solved, and 3) I honestly believe I have all the skills necessary to be a good mother to my child. Reliability (Cronbach's α) was .775 (idealized, influencer condition), .804 (non-idealized, influencer condition), .769 (idealized, everyday mother condition), and .788 (non-idealized, everyday mother condition).

Life Satisfaction

Life satisfaction was measured using a scale from Diener et al. (1985). Participants responded to 5 items on a 7-point scale (*1 = strongly disagree, 7 = strongly*

agree): 1) In most ways my life is close to my ideal, 2) The conditions of my life are excellent, 3) I am satisfied with my life, 4) So far, I have gotten the important things I want in life, and 5) If I could live my life over, I would change almost nothing. Reliability (Cronbach's α) was .903 (idealized, influencer condition), .898 (non-idealized, influencer condition), .904 (idealized, everyday mother condition), and .903 (non-idealized, everyday mother condition).

Recognition

Recognition referred to the level of encoding of the information from the Instagram posts. There were two different visual recognition tests used to measure encoding of the posts' image and text respectively. For the image recognition test, there were a total of 40 photo snippets — half of them were targets which were screenshotted from the images within the Instagram posts they saw during the experiment, and the other half of them were foils which were screenshots of images obtained from Instagram posts that were not used in the study. The screenshots for targets and foils were all focused on the mothers' faces, and special care was taken to have the selected foil image screenshots be similar to the targets (e.g., similar facial expression, hair color, presence of glasses, etc.). Likewise, for the text (of the posts) recognition test, there were a total of 40 screenshots of Instagram post text— half of them were targets which were screenshots of the text within the Instagram posts they saw during the study and the other half of them were foils which were screenshots of Instagram posts not used for the study. The text screenshots included the first two lines of text from the Instagram posts, given that the lengths of the Instagram posts vary.

For recognition testing, first, participants were randomized to either complete the image or text recognition test. For each test, participants were asked to click “yes” when they thought they had seen the image/text in the experiment, or “no” when they thought they had not seen the image/text in the experiment. Each image/text appeared on the screen for eight seconds, and if the response was not made within the time, the next image/text was presented. Any correct answers were coded as “1,” and incorrect answers were coded as “0.” And, timed-out responses (i.e., those not answered within the eight seconds) were treated as “missing.” Then, for each recognition test, a percentage of correct responses (i.e., accuracy; Shapiro & Fox, 2002) was calculated (i.e., the number of correct responses divided by the total number of questions answered) for each condition.

Experiment Procedure

The study took place after receiving approval from the Institutional Review Board (IRB). A Qualtrics panel recruited participants who met the qualification criteria. Participants first gave informed consent and were then asked screener questions to ensure that they were qualified for the study. If they passed the screening questions, participants were then taken to the first section of the study where they responded to the self-esteem and social comparison orientation measures. From there, participants were randomly presented the stimuli which were delivered in four blocks, such that the stimuli in each of the four conditions (ideal influencer, non-ideal influencer, ideal everyday mother, non-ideal everyday mother) were blocked together and presented to the participants. The presentation order of the blocks, as well as the presentation order

of all of the stimuli within each of the blocks, was randomized to help minimize any possible order effects.¹ After each stimulus (i.e., each Instagram post), participants responded to the items measuring comparison, perceived similarity, envy, and state anxiety, respectively. After state anxiety, they were asked the manipulation check question. Then, after seeing (and responding to) all five stimuli within the block, participants responded to the items measuring parental competence and psychological well-being. After seeing all 20 stimuli (in each of the four blocks) and responding to all dependent variable measures, participants completed a demographic section that included the questions about how many children they have (and their ages) and about their Instagram use. After completing the demographics section, the participants began the recognition test. Participants were either randomized to do the image test or textual test first. The study was over once both recognition tests were completed. The study took an average of 27 minutes to complete.

Participants

A total of 464 participants completed the experiment. Individuals who are females identifying themselves as a mother to at least one child aged 3 years old or younger and who reside in the United States were eligible for the experiment. A Qualtrics panel was used to reach this participant sample and participants were

¹ While the blocks of stimuli were fully randomized to minimize order effects, the mean and standard errors were plotted for all of the outcome variables across each of the presentation orders that the conditions (i.e., blocks of stimuli) appeared in within the study to visually check that the data was consistent across the order of in which the conditions appeared (e.g., whether the idealized mommy influencer condition appeared first or fourth). These plots are included in Appendix B.

compensated via the panel. The participants ranged in age from 18 to 69 ($M = 30.35$, $SD = 7.63$). The majority were White ($n = 333$, 71.8%), with the rest of the racial composition as follows: Black or African American ($n = 64$, 13.8%), Asian ($n = 27$, 5.8%), American Indian or Alaska Native ($n = 12$, 2.6%), Native Hawaiian or Pacific Islander ($n = 4$, .9%), and other (non-listed) race ($n = 24$, 5.2%). Of the 464 participants, 74 (15.9%) identified as Hispanic or Latina. When asked how many children they had, participants reported having one ($n = 177$, 38.1%), two ($n = 144$, 31.0%), three ($n = 101$, 21.8%), four ($n = 28$, 6.0%), five ($n = 6$, 1.3%), six ($n = 6$, 1.3%), or seven ($n = 2$, .4%) children. The majority of the sample was married ($n = 248$, 53.4%). Others were never married ($n = 90$, 19.4%), in a domestic partnership ($n = 55$, 11.9%), engaged ($n = 35$, 7.5%), divorced ($n = 24$, 5.2%), separated ($n = 10$, 2.2%), widowed ($n = 1$, .2%), or preferred not to answer ($n = 1$, .2%). When asked about their parenting status, the majority reported co-parenting with a spouse (e.g., husband, wife) ($n = 256$, 55.2%). Others reported co-parenting with a significant other (e.g., boyfriend, girlfriend, fiancé) ($n = 109$, 23.5%), being a single parent ($n = 88$, 19.0%), co-parenting with a non-romantic partner (e.g., parent, grandparent, roommate, friend) ($n = 10$, 2.2%), or having another (unlisted) parenting status ($n = 1$, .2%). Finally, 343 of the participants (73.9%) reported having an Instagram account.

Chapter 4: Results

To test the effects of the idealization of motherhood portrayals and the source of the motherhood portrayals, a 2 (idealization) X 2 (source) repeated measures ANOVA was performed on a series of outcome variables including comparison, perceived similarity, envy, state anxiety, parental competence, life satisfaction, and recognition accuracy.

Effects of Idealization of Motherhood Portrayals

Perceived Similarity

Hypothesis 1 predicted that the non-idealized portrayals of motherhood would result in greater perceived similarity, compared to the idealized portrayals of motherhood. The main effect of idealization on perceived similarity was statistically significant, $F(1, 463) = 298.675, p < .001$, partial $\eta^2 = .392$, and the non-idealized portrayals of motherhood led greater perceived similarity ($M = 5.290, SD = 1.223$), compared to the idealized portrayals of motherhood ($M = 3.980, SD = 1.666$). Thus, Hypothesis 1 was supported.

Social Comparison

Research Question 1 asked how the idealized portrayals of motherhood would affect social comparison. The main effect of idealization on social comparison was statistically significant, $F(1, 463) = 239.600, p < .001$, partial $\eta^2 = .341$. The non-idealized portrayals of motherhood ($M = 5.327, SD = 1.235$) resulted in greater social comparison than the idealized portrayals of motherhood ($M = 4.254, SD = 1.599$).

Envy

Hypothesis 2 predicted message exposure to the idealized portrayals of motherhood would result in greater feelings of envy, compared to the non-idealized portrayals of motherhood. There was a significant main effect of idealization found on envy, $F(1, 463) = 14.393, p < .001$, partial $\eta^2 = .030$, such that participants reported greater envy for the idealized portrayals of motherhood ($M = 3.476, SD = 1.719$), compared to the non-idealized portrayals of motherhood ($M = 3.291, SD = 1.688$). Thus, Hypothesis 2 was supported.

State Anxiety

Hypothesis 3 predicted message exposure to the idealized portrayals of motherhood would result in greater levels of state anxiety, compared to the non-idealized portrayals of motherhood. The main effect of idealization on state anxiety was statistically significant, $F(1, 463) = 12.340, p < .001$, partial $\eta^2 = .026$. Participants reported greater levels of anxiety after viewing the idealized portrayals of motherhood ($M = 2.970, SD = 1.402$), compared to the non-idealized portrayals of motherhood ($M = 2.855, SD = 1.380$). Thus, Hypothesis 3 was supported.

Parental Competence

Hypothesis 4 predicted message exposure to the idealized portrayals of motherhood would result in lower feelings of parental competence, compared to the non-idealized portrayals of motherhood. The main effect of idealization on parental competence was not statistically significant, $F(1, 463) = 1.956, p = .163$, and the difference between the non-idealized ($M = 5.077, SD = 1.336$) and idealized posts ($M = 5.036, SD = 1.336$) was minimal. Thus, Hypothesis 4 was not supported.

Life Satisfaction

Hypothesis 5 predicted message exposure to the idealized portrayals of motherhood would result in lowered life satisfaction, compared to the non-idealized portrayals of motherhood. The direction of mean scores was in line with the prediction that participants reported lower life satisfaction after seeing the non-idealized posts ($M = 4.974$, $SD = 1.460$) compared to idealized posts ($M = 4.934$, $SD = 1.458$), which approached a statistical significance $F(1, 463) = 3.261$, $p = .072$. Hypothesis 5 was not supported.

Recognition

Research Question 2 asked how the idealized portrayals of motherhood, compared to the non-idealized portrayals of motherhood, would affect encoding of information from the Instagram posts.

Image recognition. There was a significant main effect of idealization on image recognition, $F(1, 462) = 37.781$, $p < .001$, partial $\eta^2 = .076$. Recognition accuracy was greater for the idealized posts ($M = 76.741$, $SD = 16.082$), compared to the non-idealized posts ($M = 73.988$, $SD = 16.278$).

Text recognition. There was a significant main effect of idealization on text recognition, $F(1, 462) = 37.781$, $p < .001$, partial $\eta^2 = .076$. Recognition accuracy was greater for the non-idealized posts ($M = 73.486$, $SD = 20.380$), compared to the idealized posts ($M = 70.036$, $SD = 19.824$).

Effects of Source of Motherhood Portrayals

Perceived Similarity

Hypothesis 6 predicted that the motherhood portrayals from the everyday mothers would result in greater levels of perceived similarity compared to the motherhood portrayals from the mommy influencers. There was a significant main effect of source on perceived similarity, $F(1, 463) = 69.295, p < .001$, partial $\eta^2 = .130$, such that perceived similarity was rated greater for the portrayals of motherhood from the everyday mothers ($M = 4.806, SD = 1.165$), compared to the portrayals of motherhood from the social media influencers ($M = 4.464, SD = 1.315$). Thus, Hypothesis 6 was supported.

Social Comparison

Research Question 3 asked how the source (i.e., mommy influencer vs. everyday mother) of motherhood portrayals would affect social comparison. There was a significant main effect of source on social comparison, $F(1, 463) = 52.034, p < .001$, partial $\eta^2 = .101$. Social comparison was greater for the Instagram posts coming from everyday mothers ($M = 4.936, SD = 1.286$), compared to social media posts coming from mommy influencers ($M = 4.645, SD = 1.301$).

Envy, State Anxiety, Parental Competence, Life Satisfaction, and Recognition

Research Question 4 asked how the source (i.e., mommy influencer vs. everyday mother) of motherhood portrayals would affect **a)** feelings of envy, **b)** state anxiety, **c)** feelings of parental competence, **d)** life satisfaction, and **e)** recognition. The effect of source on envy was approaching significance, $F(1, 463) = 3.447, p = .064$, with envy being slightly higher for the posts from the mommy influencers ($M = 3.415, SD = 1.628$) compared to the posts from the everyday influencers ($M = 3.352, SD = 1.695$). There was

not a significant main effect of source on anxiety, $F(1, 463) = .236, p = .627$ ($M_{\text{Influencer}} = 2.904, SD_{\text{Influencer}} = 1.390, M_{\text{Everyday Mother}} = 2.921, SD_{\text{Everyday Mother}} = 1.407$), parental competence, $F(1, 463) = .810, p = .369$ ($M_{\text{Influencer}} = 5.041, SD_{\text{Influencer}} = 1.370, M_{\text{Everyday Mother}} = 5.072, SD_{\text{Everyday Mother}} = 1.327$), or life satisfaction, $F(1, 463) = 1.257, p = .263$ ($M_{\text{Influencer}} = 4.938, SD_{\text{Influencer}} = 1.452, M_{\text{Everyday Mother}} = 4.969, SD_{\text{Everyday Mother}} = 1.487$).

There was a significant main effect of source on recognition for the image recognition test, $F(1, 462) = 24.938, p < .001$, partial $\eta^2 = .109$, and the text recognition test, $F(1, 462) = 7.100, p = .008$, partial $\eta^2 = .015$. For the image recognition test, memory accuracy was greater for the posts from the mommy influencers ($M = 77.457, SD = 16.009$), compared to the posts from the everyday mothers ($M = 73.272, SD = 16.360$). Meanwhile, the results of the text recognition test showed that memory accuracy was greater for the posts from the everyday mothers ($M = 72.588, SD = 20.188$), compared to the posts from the mommy influencers ($M = 70.934, SD = 20.417$).

Interaction of Idealization of Motherhood Portrayals and Source of Motherhood Portrayals

Research Question 5 asked how the idealization of motherhood portrayals and source (i.e., mommy influencer vs. everyday mother) would interact to influence **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** parental competence, **e)** life satisfaction, and **f)** recognition.

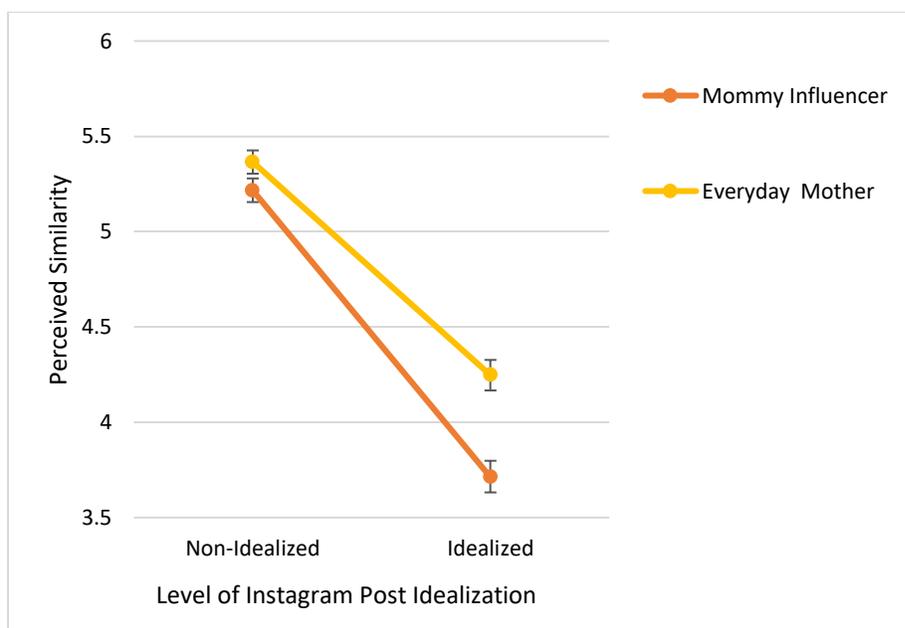
Interaction of Idealization and Source on Perceived Similarity

The interaction between idealization and source on perceived similarity was statistically significant, $F(1, 463) = 29.814, p < .001$, partial $\eta^2 = .060$. Similarly to the

significant interaction found on social comparisons, there was a greater difference in similarity between the two source types (mommy influencers vs. everyday mothers) when the posts were idealized (see Figure 1). Post-hoc paired t -tests showed there was a significant difference in similarity between the non-idealized everyday mother posts ($M = 5.365$, $SD = 1.319$) and the non-idealized influencer posts ($M = 5.216$, $SD = 1.349$), $t(463) = -3.020$, $p = .003$, but that there was a more significant difference in similarity between the idealized, everyday mother posts ($M = 4.247$, $SD = 1.714$) and the idealized, influencer posts ($M = 3.712$, $SD = 1.815$), $t(463) = -9.149$, $p < .001$.

Figure 1

Interaction of Idealization and Source on Perceived Similarity



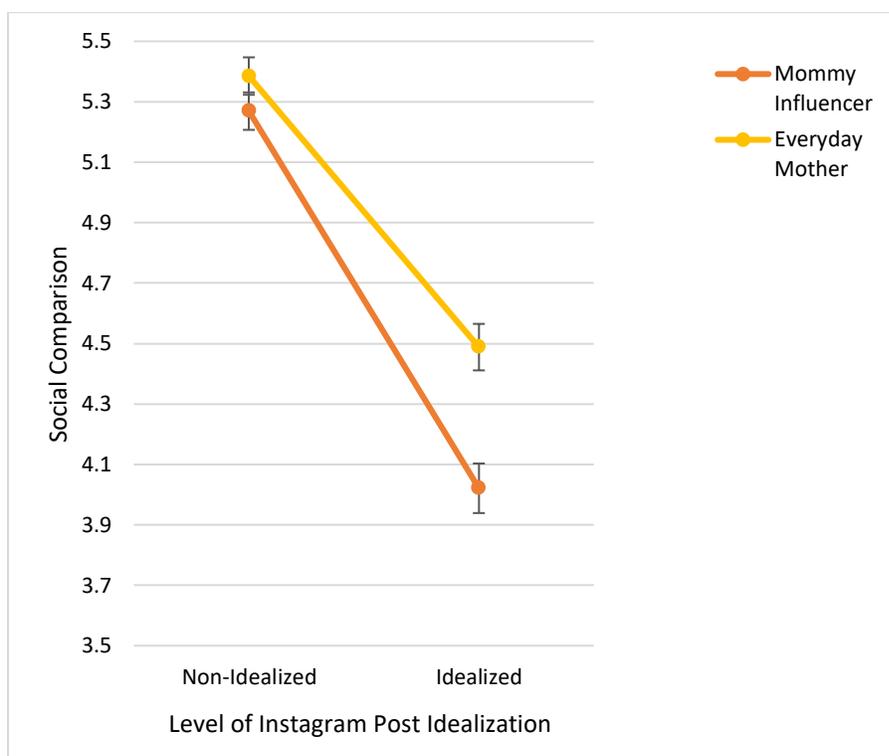
Interaction of Idealization and Source on Social Comparison

The interaction between idealization and source was statistically significant on social comparisons, $F(1, 463) = 26.536$, $p < .001$, partial $\eta^2 = .054$. As illustrated in Figure 2, the interaction showed that there was a greater difference in comparison between

the two source types (mommy influencers vs. everyday mothers) when the posts were idealized. Post-hoc paired t -tests showed that while there was a significant difference in comparison between the non-idealized everyday mother posts ($M = 5.385$, $SD = 1.339$) and the non-idealized influencer posts ($M = 5.269$, $SD = 1.328$), $t(463) = -2.466$, $p = .014$, there was a more significant difference in comparison between the idealized, everyday mother posts ($M = 4.488$, $SD = 1.666$) and the idealized, influencer posts ($M = 4.021$, $SD = 1.769$), $t(463) = -7.991$, $p < .001$.

Figure 2

Interaction of Idealization and Source on Social Comparison



Interaction of Idealization and Source on Envy

The interaction between idealization and source was not statistically significant on envy, $F(1, 463) = .406$, $p = .524$ ($M_{\text{Idealized Influencer}} = 3.499$, $SD_{\text{Idealized Influencer}} = 1.759$, M

Non-Idealized Influencer = 3.331, SD Non-Idealized Influencer = 1.721, M Idealized Everyday Mother = 3.452, SD Idealized Everyday Mother = 1.819, M Non-Idealized Everyday Mother = 3.251, SD Non-Idealized Everyday Mother = 1.760).

Interaction of Idealization and Source on Anxiety

The interaction between idealization and source was not statistically significant on anxiety, $F(1, 463) = 1.493, p = .222$ (M Idealized Influencer = 2.979, SD Idealized Influencer = 1.482, M Non-Idealized Influencer = 2.282, SD Non-Idealized Influencer = 1.456, M Idealized Everyday Mother = 2.961, SD Idealized Everyday Mother = 1.484, M Non-Idealized Everyday Mother = 2.881, SD Non-Idealized Everyday Mother = 1.480).

Interaction of Idealization and Source on Parental Competence

The interaction between idealization and source was not statistically significant on parental competence, $F(1, 463) = .052, p = .819$, (M Idealized Influencer = 5.024, SD Idealized Influencer = 1.467, M Non-Idealized Influencer = 5.058, SD Non-Idealized Influencer = 1.467, M Idealized Everyday Mother = 5.047, SD Idealized Everyday Mother = 1.414, M Non-Idealized Everyday Mother = 5.096, SD Non-Idealized Everyday Mother = 1.402).

Interaction of Idealization and Source on Life Satisfaction

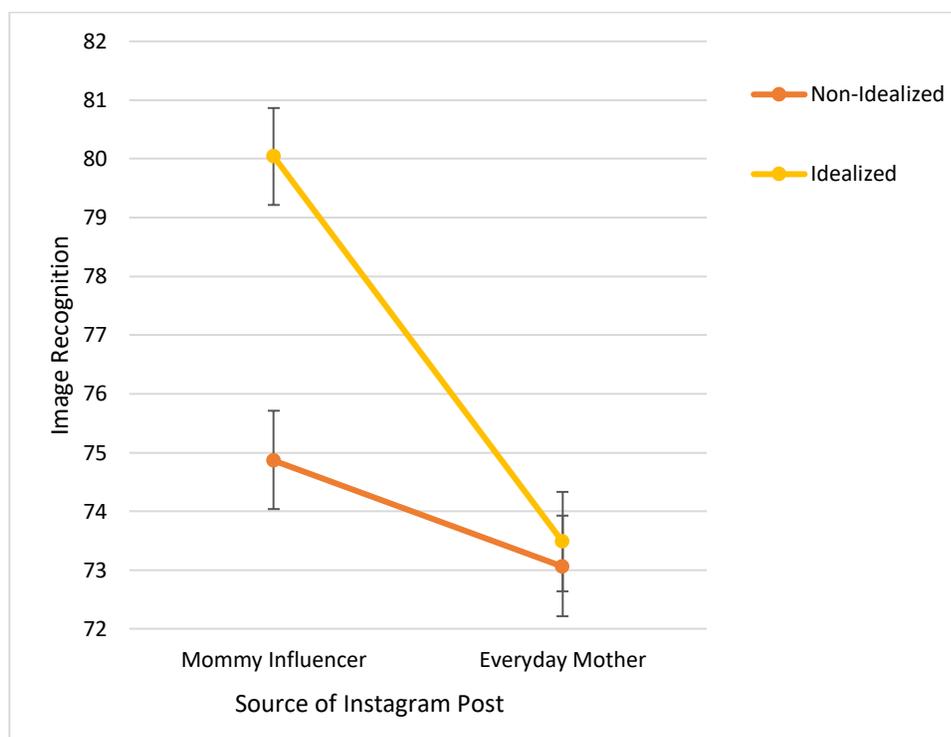
The interaction between idealization and source was not statistically significant on life satisfaction, $F(1, 463) = 1.881, p = .171$ (M Idealized Influencer = 4.902, SD Idealized Influencer = 1.507, M Non-Idealized Influencer = 4.975, SD Non-Idealized Influencer = 1.491, M Idealized Everyday Mother = 4.966, SD Idealized Everyday Mother = 1.521, M Non-Idealized Everyday Mother = 4.973, SD Non-Idealized Everyday Mother = 1.527).

Interaction of Idealization and Source on Recognition

Image recognition test. The interaction between idealization and source was statistically significant on the image recognition, $F(1, 462) = 18.203, p < .001$, partial $\eta^2 = .038$ (see Figure 3). Post-hoc paired t -tests indicated that recognition accuracy for image from the idealized portrayals ($M = 73.484, SD = 18.199$) did not significantly differ from recognition accuracy for image from the non-idealized posts ($M = 73.060, SD = 18.637$) within the everyday mothers condition, $t = .539, p = .590$. However, recognition accuracy score was significantly higher for the idealized posts ($M = 80.040, SD = 17.753$) than for the non-idealized posts ($M = 74.863, SD = 18.290$) within the mommy influencers condition, $t = 6.735, p < .001$. In summary, idealization did not have an effect on encoding image for the everyday mother posts but did for the mommy influencer posts.

Figure 3

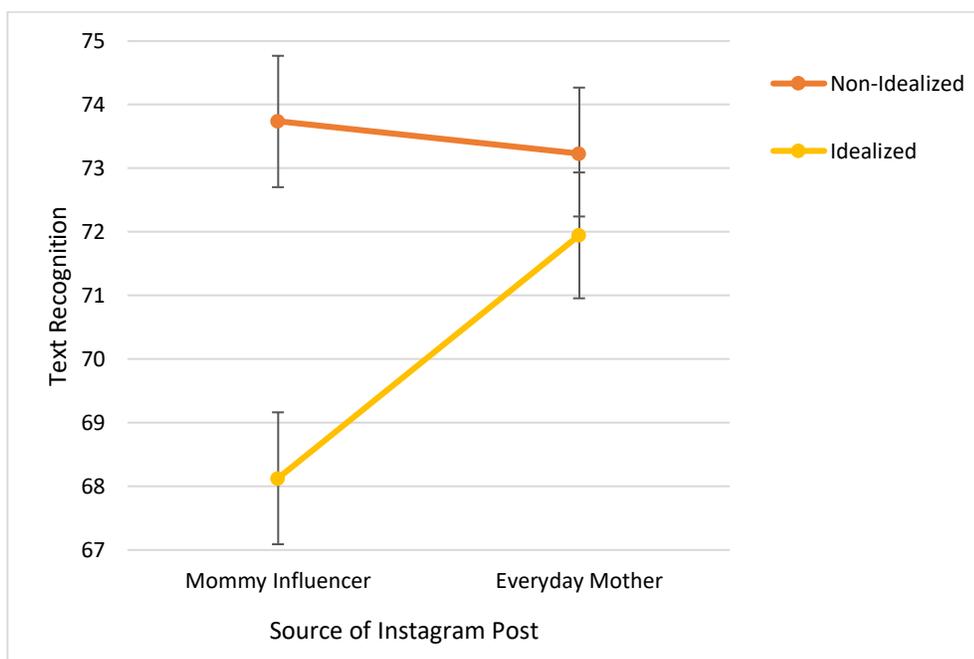
Interaction of Idealization and Source on Image Recognition



Text recognition test. The interaction between idealization and source was statistically significant on text recognition, $F(1, 462) = 15.073, p < .001$, partial $\eta^2 = .032$ (see Figure 4). Post-hoc paired t -tests indicated that recognition accuracy for text information from the idealized portrayals ($M = 71.945, SD = 21.284$) did not significantly differ from encoding text information from the non-idealized posts ($M = 73.231, SD = 22.321$) within the everyday mothers condition, $t = -1.677, p = .094$. However, recognition accuracy score was significantly higher for the non-idealized posts ($M = 73.740, SD = 21.112$) than for the idealized posts ($M = 68.127, SD = 22.321$) within the mommy influencer condition, $t = 6.894, p < .001$. In summary, idealization did not have an effect on encoding text for the everyday mother posts but did for the mommy influencer posts.

Figure 4

Interaction of Idealization and Source on Text Recognition



The Impact of Individual Difference on Processing Motherhood Instagram Post

To test how the various individual difference variables interact with message characteristics (Idealization and Source) of Instagram posts portraying motherhood to influence outcome variable of interest, a separate repeated measures ANOVA was conducted with idealization (2) and source (2) as within-subjects factors and with each individual difference variable (mother's parenting status, self-esteem, social comparison orientation, or Instagram usage) as a between subject factor, respectively.

Mother's Parenting Status

Hypothesis 7 predicted the effects of idealized portrayals of motherhood on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **f)** recognition would be stronger among first-time mothers, compared to non-first-time mothers, and Research Question 6 asked how mothers' parenting status would interact with the source's effects on the outcome variables.

The main effect of the mothers' parenting status was statistically significant on social comparison, $F(1, 462) = 6.253, p = .013$, partial $\eta^2 = .013$, and life satisfaction, $F(1, 462) = 4.297, p = .039$, partial $\eta^2 = .009$. Social comparisons were higher for non-first-time mothers ($M = 4.903, SD = 1.171$) compared to first-time mothers ($M = 4.614, SD = 1.273$), and life satisfaction was also higher for non-first-time mothers ($M = 5.064, SD = 1.419$) compared to first-time mothers ($M = 4.781, SD = 1.457$). The main effect of the mothers' parenting status was not statistically significant on envy, $F(1, 462) = .073, p = .787$, state anxiety, $F(1, 462) = .792, p = .374$, parental competence, $F(1, 462) = 1.005, p$

= .317, image recognition, $F(1, 461) = .267, p = .605$, or text recognition, $F(1, 461) = .368, p = .545$.

The interaction between idealization and mothers' parenting status was not statistically significant on social comparison, $F(1, 462) = 1.870, p = .172$, envy, $F(1, 462) = 1.983, p = .160$, state anxiety, $F(1, 462) = .303, p = .583$, feelings of parental competence, $F(1, 462) = 1.353, p = .245$, life satisfaction, $F(1, 462) = 2.306, p = .130$, image recognition, $F(1, 461) = .324, p = .569$, or text recognition(1, 461) = .050, $p = .823$. Thus, Hypothesis 7 was not supported.

The interaction between source and mothers' parenting status was not statistically significant on social comparison, $F(1, 462) = .464, p = .496$, envy, $F(1, 462) = 1.130, p = .288$, state anxiety, $F(1, 462) = .138, p = .711$, parental competence $F(1, 462) = .073, p = .786$, life satisfaction, $F(1, 462) = 1.319, p = .003$, image recognition, $F(1, 461) = .594, p = .441$, or text recognition $F(1, 461) = .325, p = .569$.

For the means and standard deviations of the two-way interaction of mothers' parenting status with idealization and the two-way interaction of mother's parenting status with source, see Table 1.

Table 1

Interaction of Mothers' Parenting Status with Idealization and Source

Dependent Variables	First-Time Mother <i>M(SD)</i>	Non-First-Time Mother <i>M(SD)</i>	<i>F</i>	<i>p</i>	η^2
Social Comparison					
Idealization			1.870	.172	.004
Non-Idealized	5.091(1.322)	5.477(1.154)			
Idealized	4.137(1.595)	4.329(1.599)			
Source			.464	.496	.001
Mommy Influencer	4.451(1.336)	4.768(1.266)			
Everyday Mom	4.777(1.365)	5.037(1.224)			
Envy			1.983	.160	.004
Idealization					

	Non-Idealized	3.309(1.650)	3.280(1.714)			
	Idealized	3.407(1.726)	3.519(1.717)			
	Source			1.130	.288	.002
	Mommy Influencer	3.367(1.610)	3.446(1.641)			
	Everyday Mom	3.349(1.692)	3.354(1.701)			
State Anxiety						
	Idealization			.303	.583	.001
	Non-Idealized	2.913(1.369)	2.817(1.389)			
	Idealized	3.051(1.399)	2.919(1.404)			
	Source			.138	.711	<.001
	Mommy Influencer	2.965(1.383)	2.865(1.396)			
	Everyday Mom	2.999(1.408)	2.871(1.406)			
Parental Competence						
	Idealization			1.353	.245	.003
	Non-Idealized	4.989(1.324)	5.139(1.342)			
	Idealized	4.981(1.287)	5.070(1.368)			
	Source			.073	.786	<.001
	Mommy Influencer	4.959(1.334)	5.093(1.392)			
	Everyday Mom	5.002(1.311)	5.116(1.338)			
Life Satisfaction						
	Idealization			2.306	.130	.005
	Non-Idealized	4.779(1.482)	5.098(1.435)			
	Idealized	4.782(1.472)	5.030(1.444)			
	Source			1.319	.251	.003
	Mommy Influencer	4.785(1.474)	5.036(1.432)			
	Everyday Mom	4.776(1.502)	5.092(1.467)			
Recognition (Image recognition test)						
	Idealization			.324	.569	.001
	Non-Idealized	74.639(17.155)	73.575(15.712)			
	Idealized	76.997(16.442)	76.577(15.878)			
	Source			.594	.441	.001
	Mommy Influencer	77.641(16.852)	77.340(15.480)			
	Everyday Mom	73.995(17.112)	72.812(15.876)			
Recognition (Text recognition test)						
	Idealization			.050	.823	<.001
	Non-Idealized	72.887(19.476)	73.867(20.960)			
	Idealized	69.279(19.898)	70.518(19.797)			
	Source			.325	.569	.001
	Mommy Influencer	70.034(19.859)	71.506(20.778)			
	Everyday Mom	72.132(19.892s)	72.878(20.404)			

The three-way interaction among idealization, source, and parenting status was not statistically significant on social comparison, $F(1, 462) = 1.080, p = .299$, envy, $F(1, 462) = 1.186, p = .277$, state anxiety, $F(1, 462) = .059, p = .809$, life satisfaction, $F(1, 462) = 1.633, p = .202$, image recognition, $F(1, 462) = 2.129, p = .145$, or text recognition, $F(1, 462) = .640, p = .424$. The three-way interaction among idealization, source, and parenting status was significant on parental competence, $F(1, 462) = 6.757, p = .010$,

partial $\eta^2 = .014$, with the results showing that parental competence differed between first-time-moms and non-first-time-moms when the motherhood portrayals were *non-idealized and coming from a mommy influencer* but not when the motherhood portrayals was non-idealized and coming from an everyday mother. However, post-hoc tests showed that these differences were not statistically significant $F(1, 462) = 3.278, p = .071$. For the *idealized* posts, levels of parental competence differed between first-time-moms and non-first-time-moms when the motherhood portrayal was *coming from an everyday mother* but not when the motherhood portrayal was coming from a mommy influencer. But again, post-hoc test showed that these differences were not statistically significant, $F(1, 462) = 1.451, p = .229$.

Self-Esteem

Hypothesis 8 predicted the effects of idealized portrayals of motherhood on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **f)** recognition would be stronger among mothers with low self-esteem, and Research Question 7 asked how self-esteem would interact with the source to influence the outcome variables.

The main effect of self-esteem was statistically significant on *envy*, $F(1, 462) = 51.461, p < .001$, partial $\eta^2 = .100$, *state anxiety*, $F(1, 462) = 99.925, p < .001$, partial $\eta^2 = .178$, *parental competence*, $F(1, 462) = 71.810, p < .001$, partial $\eta^2 = .135$, *life satisfaction*, $F(1, 462) = 71.860, p < .001$, partial $\eta^2 = .135$, and *image recognition*, $F(1, 461) = 4.392, p = .037$, partial $\eta^2 = .009$. Envy and state anxiety were each higher for mothers with low self-esteem ($M_{\text{Envy}} = 3.875, SD_{\text{Envy}} = 1.491, M_{\text{State Anxiety}} = 3.455, SD_{\text{State}}$

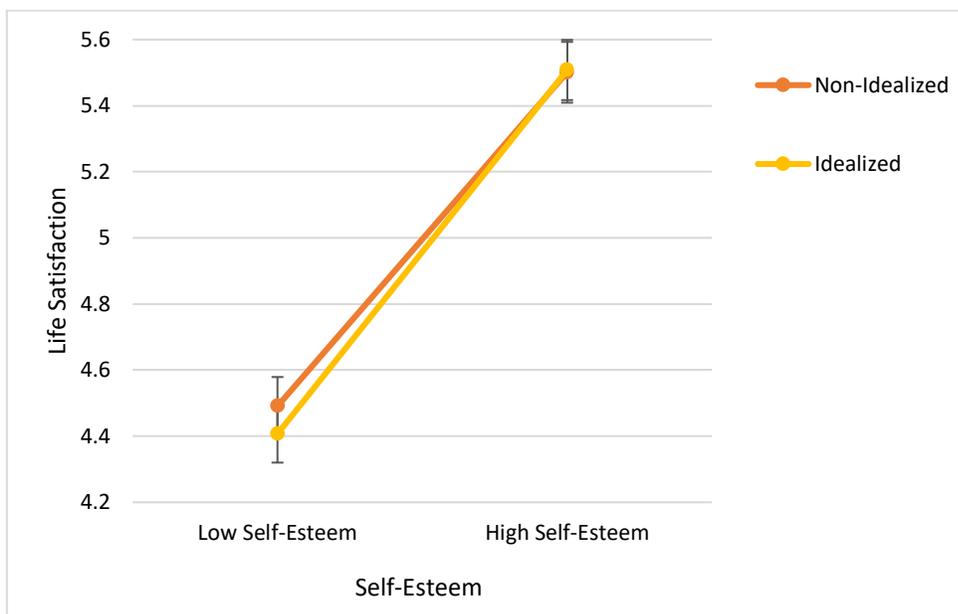
Anxiety = 1.234) compared to high self-esteem ($M_{\text{Envy}} = 2.848$, $SD_{\text{Envy}} = 1.590$, $M_{\text{State Anxiety}} = 2.321$, $SD_{\text{State Anxiety}} = 1.207$). Parental competence and life satisfaction were each higher for mothers with high self-esteem ($M_{\text{Parental Competence}} = 5.553$, $SD_{\text{Parental Competence}} = 1.133$, $M_{\text{Life Satisfaction}} = 5.505$, $SD_{\text{Life Satisfaction}} = 1.288$) compared to low self-esteem ($M_{\text{Parental Competence}} = 4.601$, $SD_{\text{Parental Competence}} = 1.273$, $M_{\text{Life Satisfaction}} = 4.449$, $SD_{\text{Life Satisfaction}} = 1.386$). Image recognition was higher for mothers with high self-esteem ($M = 76.886$, $SD = 13.597$) compared to mothers with low self-esteem ($M = 73.963$, $SD = 16.167$). The main effect of self-esteem was not statistically significant on social comparison, $F(1, 462) = .673$, $p = .413$, or text recognition, $F(1, 462) = .645$, $p = .422$.

The interaction of idealization and self-esteem was not statistically significant on comparison, $F(1, 462) = .007$, $p = .933$, envy, $F(1, 462) = .479$, $p = .489$, anxiety, $F(1, 462) = 2.183$, $p = .140$, parental competence, $F(1, 462) = 3.518$, $p = .061$, image recognition, $F(1, 461) = .006$, $p = .938$ or text recognition $F(1, 461) = 1.435$, $p = .232$, but the interaction of idealization and self-esteem was statistically significant on life satisfaction, $F(1, 462) = 4.021$, $p = .046$, partial $\eta^2 = .009$ (see Figure 5). For both the idealized and non-idealized portrayals, life satisfaction was greater for the participants with high self-esteem. Post-hoc paired t -tests illustrated that for participants with high self-esteem, the difference in life satisfaction after seeing the idealized portrayals of motherhood ($M = 5.508$, $SD = 1.280$) did not significantly differ from life satisfaction after seeing the non-idealized portrayals of motherhood ($M = 5.501$, $SD = 1.331$), $t(221) = .218$, $p = .827$. But, for participants with low self-esteem, there was a significant difference, such that the idealized portrayals of motherhood ($M = 4.407$, $SD = 1.415$) resulted in significantly

lower life satisfaction compared to the non-idealized portrayals of motherhood ($M = 4.491$, $SD = 1.407$), $t(241) = -2.475$, $p = .014$. Thus, Hypothesis 8e was supported, but the rest of Hypothesis 8 was not.

Figure 5

Interaction of Idealization and Self-Esteem on Life Satisfaction

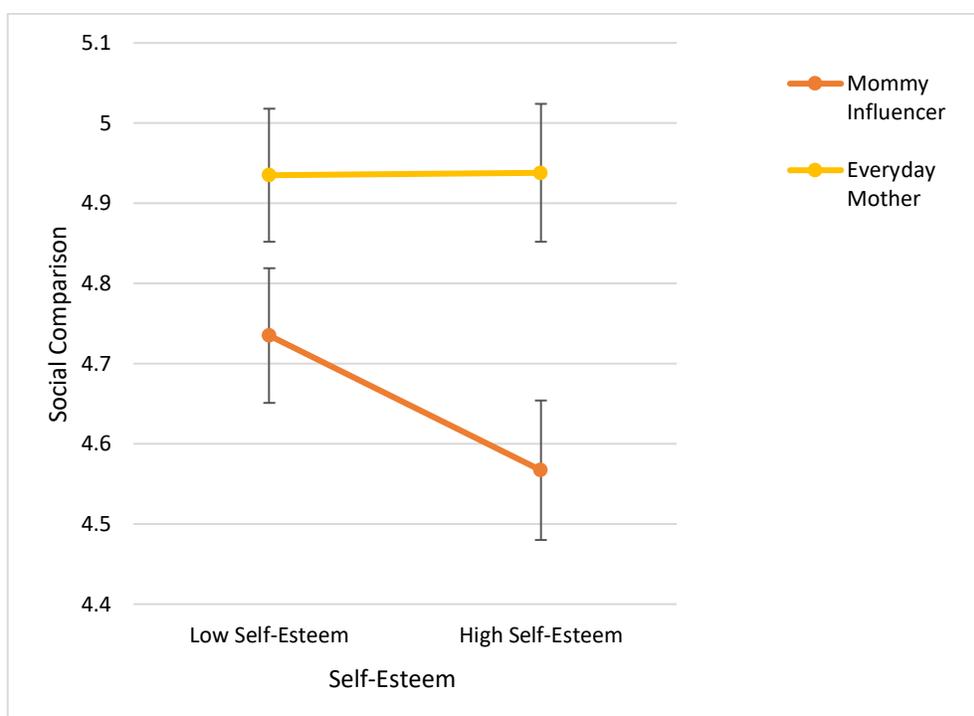


The interaction of source and self-esteem was not statistically significant on envy, $F(1, 462) = 3.289$, $p = .070$, anxiety, $F(1, 462) = .064$, $p = .800$, parental competence, $F(1, 462) = .739$, $p = .390$, life satisfaction $F(1, 462) = .451$, $p = .502$, or image recognition, $F(1, 461) = .017$, $p = .897$, but the interaction of source and self-esteem was statistically significant on social comparison, $F(1, 462) = 5.625$, $p = .018$, partial $\eta^2 = .012$ (See Figure 6), and text recognition, $F(1, 461) = 5.496$, $p = .019$, partial $\eta^2 = .012$ (See Figure 7). The interaction effect on social comparison was such that comparison to the mommy influencers ($M_{\text{Low Self-Esteem}} = 4.735$, $SD_{\text{Low Self-Esteem}} = 1.252$, $M_{\text{High Self-Esteem}} = 4.567$, $SD_{\text{High Self-Esteem}} = 1.349$) differed more across participant self-

esteem groups (i.e., low vs. high) than comparison to the everyday mother portrayals differed ($M_{\text{Low Self-Esteem}} = 4.935$, $SD_{\text{Low Self-Esteem}} = 1.209$, $M_{\text{High Self-Esteem}} = 4.938$, $SD_{\text{High Self-Esteem}} = 1.367$). However, post-hoc independent-samples t -tests showed that this difference (for the comparison to the mommy influencers) was not statistically significant, $t(462) = 1.559$, $p = .120$.

Figure 6

Interaction of Source and Self-Esteem on Social Comparison

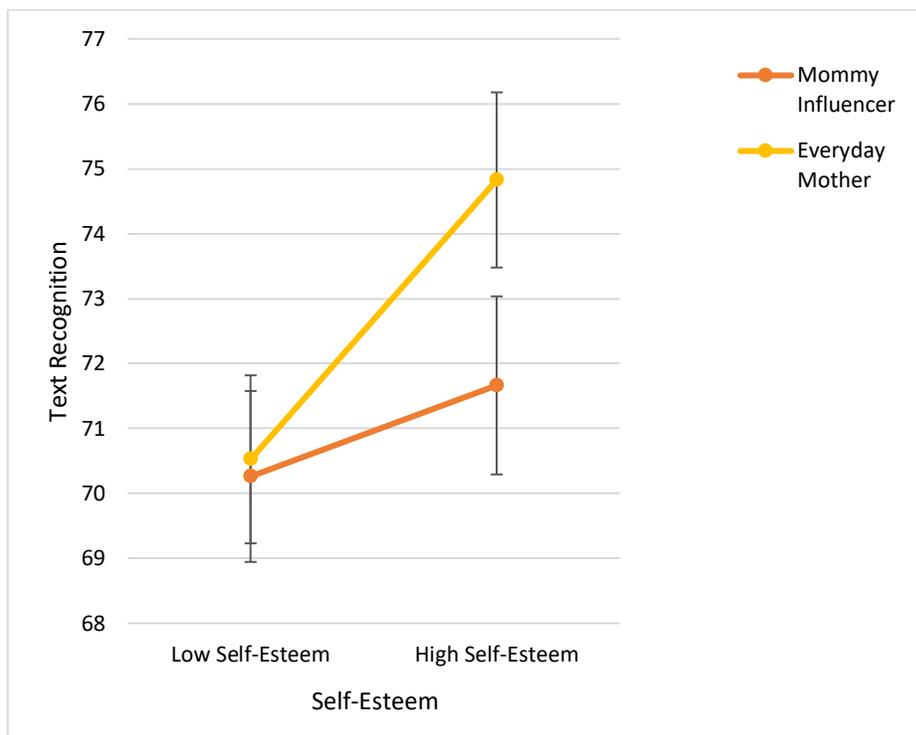


For the interaction effect on text recognition (Figure 7), post-hoc paired t -tests showed that there was a significant difference between recognition of the two difference source types for participants with high self-esteem, but recognition did not differ for participants with low self-esteem ($M_{\text{Mommy Influencers}} = 70.261$, $SD_{\text{Mommy Influencers}} = 20.738$, $M_{\text{Everyday Mothers}} = 70.525$, $SD_{\text{Everyday Mothers}} = 21.147$), $t(240) = -.306$, $p = .760$. For participants with high self-esteem, recognition was significantly higher for the everyday

mother posts ($M = 74.828$, $SD = 18.886$), compared to the influencer mommy posts ($M = 71.664$, $SD = 20.084$), $t(221) = 3.579$, $p < .001$.

Figure 7

Interaction of Source and Self-Esteem on Text Recognition



For the means and standard deviations for the two-way interaction of self-esteem with idealization and the two-way interaction of self-esteem with source, see Table 2.

Table 2

Interaction of Self-Esteem with Idealization and Source

Dependent Variables	Low Self-Esteem <i>M(SD)</i>	High Self-Esteem <i>M(SD)</i>	<i>F</i>	<i>p</i>	η^2
Social comparison					
Idealization			.007	.933	< .001
Non-Idealized	5.369(1.143)	5.282(1.330)			
Idealized	4.302(1.558)	4.203(1.644)			
Source			5.625	.018	.012
Mommy Influencer	4.735(1.252)	4.547(1.349)			
Everyday Mom	4.935(1.209)	4.938(1.367)			

Envy						
	Idealization			.479	.489	.001
	Non-Idealized	3.766(1.605)	2.774(1.625)			
	Idealized	3.983(1.607)	2.923(1.670)			
	Source			3.289	.070	.007
	Mommy Influencer	3.922(1.510)	2.863(1.575)			
	Everyday Mom	3.827(1.576)	2.834(1.673)			
State Anxiety						
	Idealization			2.183	.140	.005
	Non-Idealized	3.374(1.313)	2.288(1.222)			
	Idealized	3.536(1.264)	2.353(1.282)			
	Source			.064	.800	<.001
	Mommy Influencer	3.451(1.294)	2.307(1.240)			
	Everyday Mom	3.459(1.314)	2.334(1.265)			
Parental Competence						
	Idealization			3.518	.061	.008
	Non-Idealized	4.649(1.316)	5.544(1.196)			
	Idealized	4.554(1.315)	5.561(1.151)			
	Source			.739	.390	.002
	Mommy Influencer	4.571(1.357)	5.553(1.190)			
	Everyday Mom	4.632(1.312)	5.552(1.1709)			
Life Satisfaction						
	Idealization			4.021	.046	.009
	Non-Idealized	4.491(1.407)	5.501(1.331)			
	Idealized	4.407(1.415)	5.508(1.280)			
	Source			.451	.502	.001
	Mommy Influencer	4.442(1.394)	5.479(1.317)			
	Everyday Mom	4.455(1.448)	5.530(1.319)			
Recognition (Image recognition test)						
	Idealization			.006	.938	<.001
	Non-Idealized	72.608(17.734)	75.487(14.424)			
	Idealized	75.319(16.899)	78.284(15.038)			
	Source			.017	.897	<.001
	Mommy Influencer	76.091(17.109)	78.941(14.611)			
	Everyday Mom	71.836(17.609)	74.803(14.768)			
Recognition (Text recognition test)						
	Idealization			1.435	.232	.003
	Non-Idealized	71.795(20.974)	75.321(19.587)			
	Idealized	68.991(20.419)	71.171(19.139)			
	Source			5.496	.019	.012
	Mommy Influencer	70.261(20.738)	71.664(20.084)			
	Everyday Mom	70.525(21.147)	74.828(18.886)			

The three-way interaction among idealization, source, and self-esteem was not statistically significant on envy, $F(1, 462) = .542, p = .462$, state anxiety, $F(1, 462) = 1.712, p = .191$, parental competence, $F(1, 462) = .001, p = .971$, life satisfaction, $F(1, 462) = .009, p = .924$, image recognition, $F(1, 462) = .361, p = .548$, or text recognition, $F(1, 462) = .645, p = .422$. The three-way interaction among idealization, source, and

self-esteem was significant on *social comparison*, $F(1, 462) = 5.342$, $p = .021$, partial $\eta^2 = .011$, such that it appeared that there was a significant difference in comparison between mothers with low and high self-esteem when the portrayals were *idealized and from a mommy influencer* but not for the other conditions. However, post-hoc testing revealed that this difference was not statistically significant, $F(1, 462) = 2.765$, $p = .097$.

Social Comparison Orientation (SCO)

Hypothesis 9 predicted the effects of idealized portrayals of motherhood on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **g)** recognition would be stronger among mothers with high social comparison orientation (SCO), and Research Question 8 asked how social comparison orientation would interact with source to affect the outcome variables.

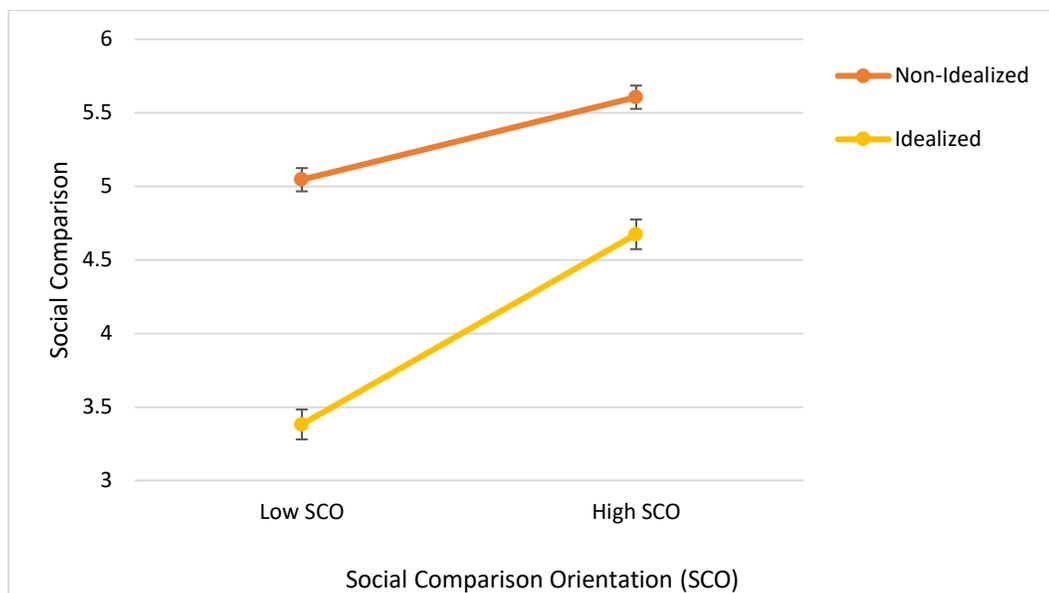
The main effect of SCO was statistically significant on *social comparison*, $F(1, 462) = 41.907$, $p < .001$, partial $\eta^2 = .083$, *envy*, $F(1, 462) = 31.225$, $p < .001$, partial $\eta^2 = .063$, *parental competence*, $F(1, 462) = 12.715$, $p < .001$, partial $\eta^2 = .027$, *life satisfaction*, $F(1, 462) = 8.165$, $p = .004$, partial $\eta^2 = .017$, *image recognition*, $F(1, 461) = 10.236$, $p = .001$, partial $\eta^2 = .022$, and *text recognition*, $F(1, 461) = 15.837$, $p < .001$, partial $\eta^2 = .033$. Social comparison and envy were each higher for mothers with high SCO ($M_{\text{Social Comparison}} = 5.140$, $SD_{\text{Social Comparison}} = 1.157$, $M_{\text{Envy}} = 3.789$, $SD_{\text{Envy}} = 1.657$) compared to low SCO ($M_{\text{Social Comparison}} = 4.438$, $SD_{\text{Social Comparison}} = 1.179$, $M_{\text{Envy}} = 2.974$, $SD_{\text{Envy}} = 1.478$). Parental competence and life satisfaction were each higher for mothers with high SCO ($M_{\text{Parental Competence}} = 5.268$, $SD_{\text{Parental Competence}} = 1.244$, $M_{\text{Life Satisfaction}} =$

5.142, $SD_{\text{Life Satisfaction}} = 1.389$) compared to low SCO ($M_{\text{Parental Competence}} = 4.843$, $SD_{\text{Parental Competence}} = 1.317$, $M_{\text{Life Satisfaction}} = 4.764$, $SD_{\text{Life Satisfaction}} = 1.469$). Image and recognition was higher for mothers with low SCO ($M_{\text{Image}} = 77.584$, $SD_{\text{Image}} = 14.275$; $M_{\text{Text}} = 75.274$, $SD_{\text{Text}} = 18.922$) compared to mothers with high SCO ($M_{\text{Image}} = 73.154$, $SD_{\text{Image}} = 15.490$; $M_{\text{Text}} = 68.293$, $SD_{\text{Text}} = 18.821$). The main effect of SCO on state anxiety was not statistically significant, $F(1, 462) = .572$, $p = .450$.

The interaction between idealization and SCO was statistically significant *on social comparison*, $F(1, 462) = 4.140$, $p = .042$, partial $\eta^2 = .009$ (See Figure 8). For both the idealized and non-idealized portrayals, comparison was greater for participants with high SCO, and post-hoc paired *t*-tests showed that comparison was higher for the non-idealized posts compared to the idealized posts within both the low SCO condition, $t(230) = 12.238$, $p < .001$ ($M_{\text{Non-Idealized}} = 5.045$, $SD_{\text{Non-Idealized}} = 1.264$, $M_{\text{Idealized}} = 3.381$, $SD_{\text{Idealized}} = 1.522$), and high SCO condition, $t(232) = 9.700$, $p < .001$ ($M_{\text{Non-Idealized}} = 5.606$, $SD_{\text{Non-Idealized}} = 1.142$, $M_{\text{Idealized}} = 4.674$, $SD_{\text{Idealized}} = 1.565$). Given that the difference in comparison between the two idealization conditions was not stronger for participants with high SCO, H9a was not supported.

Figure 8

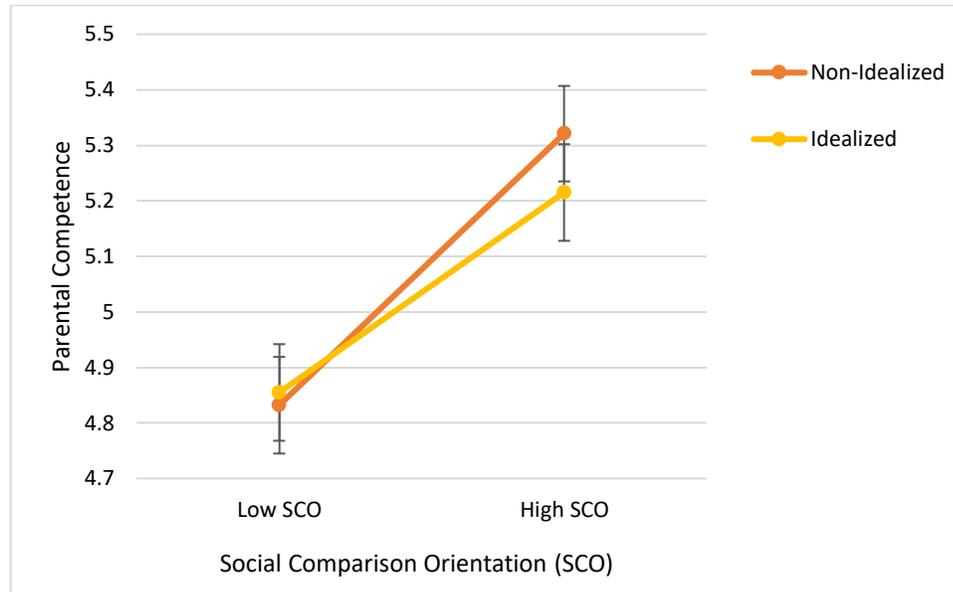
Interaction of Idealization and Social Comparison Orientation on Social Comparison



The interaction between idealization and SCO on *parental competence* was also statistically significant, $F(1, 462) = 4.721, p = .030$, partial $\eta^2 = .010$ (See Figure 9). Post-hoc paired t -tests showed that for participants with low SCO, the difference in feelings of parental competence after seeing the idealized portrayals of motherhood ($M = 4.855, SD = 1.336$) did not significantly differ from feelings of parental competence after seeing the non-idealized portrayals of motherhood ($M = 4.832, SD = 1.369$), $t(230) = .573, p = .567$. But, for participants with high SCO, there was a significant difference, such that the idealized portrayals of motherhood ($M = 5.215, SD = 1.316$) resulted in significantly lower parental competence compared to the non-idealized portrayals of motherhood ($M = 5.321, SD = 1.259$), $t(232) = -2.432, p = .016$. Thus, Hypothesis 9d was supported.

Figure 9

Interaction of Idealization and Social Comparison Orientation on Parental Competence



The interaction between source and SCO was not statistically significant on envy, $F(1, 462) = 1.052, p = .306$, state anxiety, $F(1, 462) = 1.060, p = .304$, life satisfaction, $F(1, 462) = 2.003, p = .158$, image recognition $F(1, 461) = .605, p = .437$, or text recognition, $F(1, 461) = 3.043, p = .082$.

So, overall, while Hypothesis 9d (parental competence) was supported, the rest of Hypothesis 9 was not supported.

The interaction between source and SCO was not statistically significant on social comparison, $F(1, 462) = .568, p = .451$, envy, $F(1, 462) = .055, p = .815$, state anxiety, $F(1, 462) = .610, p = .435$, parental competence, $F(1, 462) = .482, p = .488$, life satisfaction, $F(1, 462) = .882, p = .348$, image recognition, $F(1, 461) = .678, p = .411$, or text recognition, $F(1, 461) = .113, p = .737$.

For the means and standard deviations for the two-way interaction of SCO with idealization and the two-way interaction of SCO with source, see Table 3.

Table 3

Interaction of Social Comparison Orientation (SCO) with Idealization and Source

Dependent Variables	Low SCO M(SD)	High SCO M(SD)	F	p	η^2
Social Comparison					
Idealization			4.140	.042	.009
Non-Idealized	5.045(1.264)	5.606(1.142)			
Idealized	3.831(1.522)	4.674(1.565)			
Source			.568	.451	.001
Mommy Influencer	4.277(1.277)	5.010(1.272)			
Everyday Mom	4.599(1.283)	5.271(1.201)			
Envy					
Idealization			1.052	.306	.002
Non-Idealized	2.907(1.497)	3.672(1.780)			
Idealized	3.042(1.609)	3.906(1.720)			
Source			.055	.815	< .001
Mommy Influencer	3.002(1.482)	3.825(1.665)			
Everyday Mom	2.947(1.563)	3.754(1.729)			
State Anxiety					
Idealization			1.060	.304	.002
Non-Idealized	2.790(1.383)	2.918(1.377)			
Idealized	2.940(1.391)	3.000(1.415)			
Source			.610	.435	.001
Mommy Influencer	2.842(1.404)	2.965(1.377)			
Everyday Mom	2.887(1.362)	2.954(1.452)			
Parental Competence					
Idealization			4.721	.030	.010
Non-Idealized	4.832(1.369)	5.321(1.259)			
Idealized	4.855(1.336)	5.215(1.316)			
Source			.482	.488	.001
Mommy Influencer	4.816(1.375)	5.264(1.330)			
Everyday Mom	4.871(1.355)	5.271(1.271)			
Life Satisfaction					
Idealization			2.003	.158	.004
Non-Idealized	4.768(1.501)	5.179(1.392)			
Idealized	4.759(1.473)	5.106(1.426)			
Source			.882	.348	.002
Mommy Influencer	4.735(1.469)	5.140(1.409)			
Everyday Mom	4.792(1.521)	5.145(1.434)			
Recognition (Image recognition test)					
Idealization			.605	.437	.001
Non-Idealized	76.423(15.529)	71.564(16.673)			
Idealized	78.745(15.521)	74.744(16.424)			
Source			.678	.411	.001
Mommy Influencer	79.907(14.793)	75.018(16.805)			
Everyday Mom	75.262(15.986)	71.291(16.520)			
Recognition (Text recognition test)					
Idealization			3.043	.082	.007
Non-Idealized	77.490(19.606)	69.533(20.424)			
Idealized	73.058(20.056)	67.054(19.173)			
Source			.113	.737	<.001

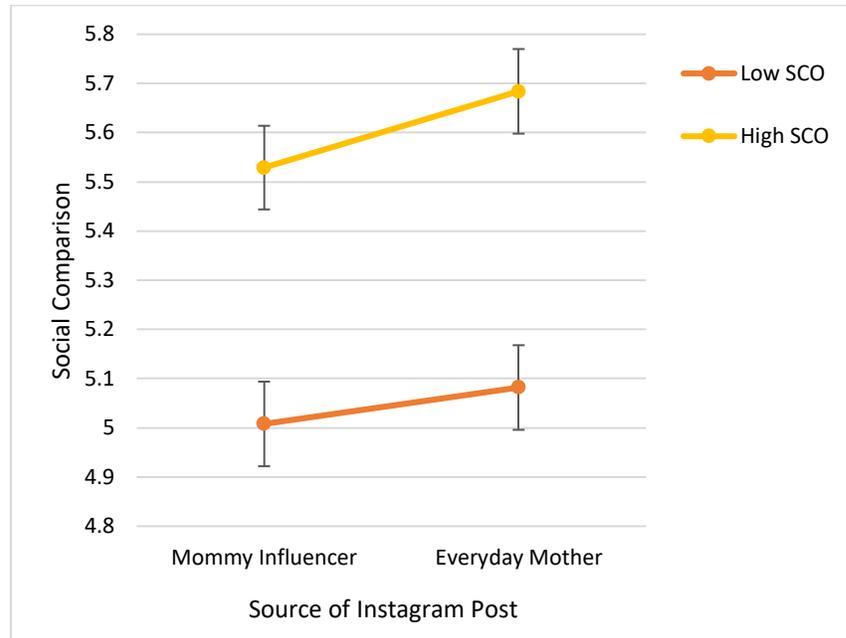
Mommy Influencer	74.552(20.268)	67.362(19.971)
Everyday Mom	75.996(19.861)	69.224(19.984)

The three-way interaction among idealization, source and SCO was not statistically significant on envy, $F(1, 462) = .740, p = .390$, state anxiety, $F(1, 462) = 1.904, p = .168$, parental competence, $F(1, 462) = 2.416, p = .121$, life satisfaction, $F(1, 462) = .019, p = .890$, or text recognition, $F(1, 462) = .019, p = .889$. But the three-way interaction was statistically significant on social comparison, $F(1, 462) = 4.329, p = .038$, partial $\eta^2 = .009$, and image recognition, $F(1, 462) = .6.158, p = .013$, partial $\eta^2 = .013$.

The three-way interaction effect on social comparison showed that when the portrayals are non-idealized, comparison to the two sources differs for participants with high SCO ($M_{\text{Influencer}} = 5.529, SD_{\text{Influencer}} = 1.259, M_{\text{Everyday Mother}} = 5.684, SD_{\text{Everyday Mother}} = 1.207$) but does not differ for participants with low SCO ($M_{\text{Influencer}} = 5.008, SD_{\text{Influencer}} = 1.347, M_{\text{Everyday Mother}} = 5.082, SD_{\text{Everyday Mother}} = 1.400$)(See Figure 10). Post-hoc paired t -tests confirmed that the difference between sources was significant among those with high SCO, $t(232) = -2.543, p = .012$, and but not low SCO, $t(230) = -1.053, p = .293$.

Figure 10

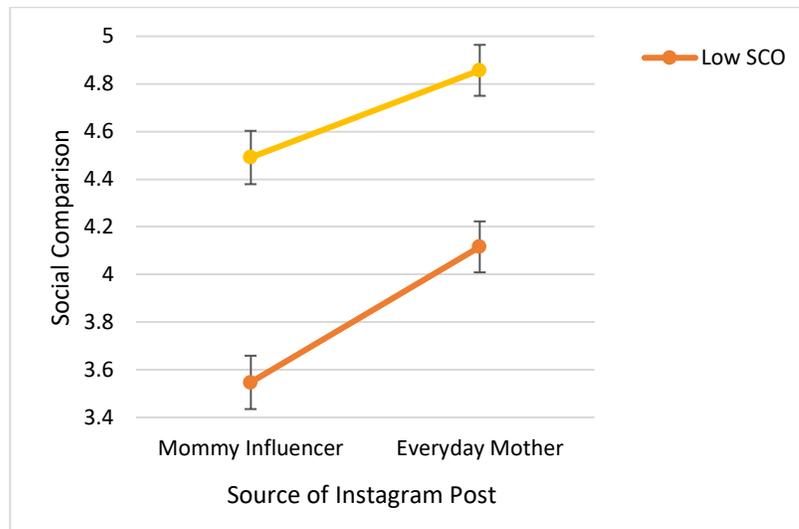
Interaction of Social Comparison Orientation and Source on Social Comparison when Posts are Non-Idealized



When the portrayals are idealized, comparison to the two sources differs both for participants with high SCO ($M_{\text{Influencer}} = 4.491$, $SD_{\text{Influencer}} = 1.781$, $M_{\text{Everyday Mother}} = 4.857$, $SD_{\text{Everyday Mother}} = 1.625$) and low SCO ($M_{\text{Influencer}} = 3.547$, $SD_{\text{Influencer}} = 1.629$, $M_{\text{Everyday Mother}} = 4.116$, $SD_{\text{Everyday Mother}} = 1.628$) (See Figure 11). Post-hoc paired t -tests confirmed that the differences were statistically significant between sources for both the participants with high SCO, $t(232) = -4.152$, $p < .001$, and low SCO, $t(230) = -7.465$, $p < .001$.

Figure 11

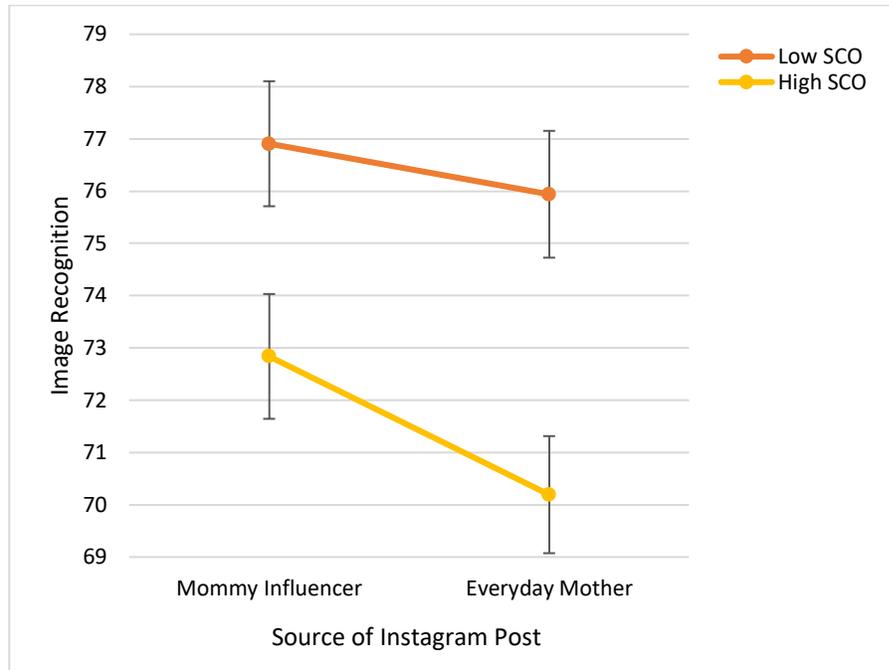
Interaction of Social Comparison Orientation and Source on Social Comparison when Posts are Idealized



The three-way interaction effect on image recognition showed that participants with low SCO had significantly higher image recognition (compared to participants with high SCO) across all conditions except when the portrayals were idealized and from everyday mothers. In the case that the portrayals were idealized and from everyday mothers, recognition did not differ between participants with low SCO and high SCO. Post-hoc testing confirmed that when the portrayals were *non-idealized* (see Figure 12), participants with low SCO had significantly higher recognition (compared to participants with high SCO) for both the portrayals from the mommy influencers, $F(1, 462) = 5.800, p = .016, \eta^2 = .012, (M_{\text{Low SCO}} = 76.906, SD_{\text{Low SCO}} = 17.620, M_{\text{High SCO}} = 72.837, SD_{\text{High SCO}} = 18.750)$ and the portrayals from the everyday mothers, $F(1, 461) = 11.248, p = .001, \eta^2 = .024, (M_{\text{Low SCO}} = 75.939, SD_{\text{Low SCO}} = 17.589, M_{\text{High SCO}} = 70.193, SD_{\text{High SCO}} = 19.238)$.

Figure 12

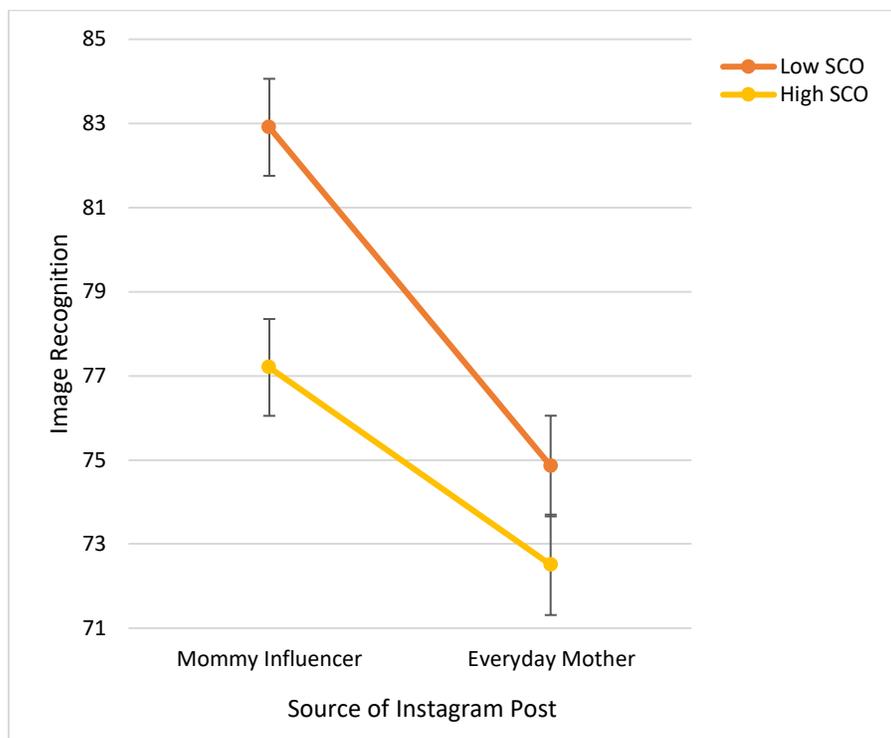
Interaction of Social Comparison Orientation and Source on Image Recognition when Posts are Non-Idealized



When the portrayals were *idealized* (see Figure 13), recognition accuracy for the portrayals from the *mommy influencers* was significantly higher for the participants with low SCO ($M = 82.907$, $SD = 16.116$) compared to the participants with high SCO ($M = 77.199$, $SD = 18.847$), $F(1, 462) = 12.286$, $p = .001$, $\eta^2 = .026$, but recognition accuracy for the portrayals from the *everyday mothers* did not differ between participants with low SCO ($M = 74.854$, $SD = 18.214$) and participants with high SCO ($M = 72.507$, $SD = 18.209$), $F(1, 462) = 1.509$, $p = .220$.

Figure 13

Interaction of Social Comparison Orientation and Source on Image Recognition when Posts are Idealized



Instagram Use

Lastly Research Question 9 asked how Instagram use would interact with the idealization of the portrayals and Research Question 10 asked how Instagram use would interact with the source of the portrayals. Both RQ9 and RQ10, were interested in the interaction effects on **a)** social comparison, **b)** feelings of envy, **c)** state anxiety, **d)** feelings of parental competence, **e)** life satisfaction, and **g)** recognition. This was examined for each of the three operationalizations of Instagram use: number of followers, time spent on Instagram, and Instagram Intensity.

Number of followers. The main effect of the number of Instagram followers was statistically significant on *social comparison*, $F(1, 341) = 11.422$, $p = .001$, partial $\eta^2 =$

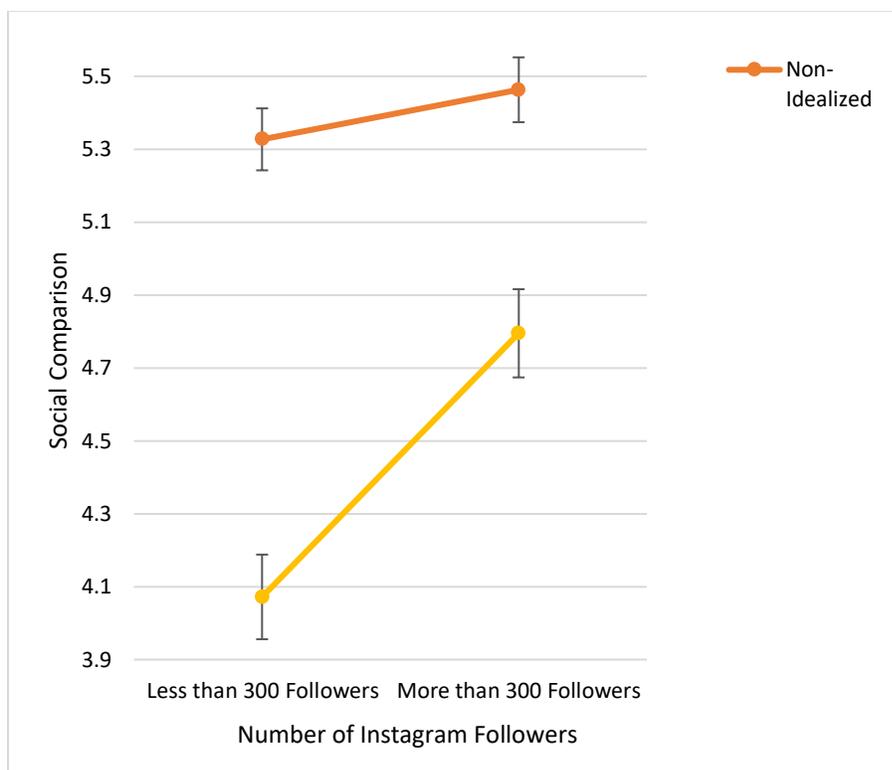
.032, *envy*, $F(1, 341) = 5.936$, $p = .015$, partial $\eta^2 = .017$, and *text recognition*, $F(1, 341) = 9.902$, $p = .002$, partial $\eta^2 = .028$. Social comparisons and envy were each higher for mothers with more followers ($M_{\text{Social Comparison}} = 5.129$, $SD_{\text{Social Comparison}} = 1.135$, $M_{\text{Envy}} = 3.742$, $SD_{\text{Envy}} = 1.667$) compared to mothers with less followers ($M_{\text{Social Comparison}} = 4.700$, $SD_{\text{Social Comparison}} = 1.209$, $M_{\text{Envy}} = 3.321$, $SD_{\text{Envy}} = 1.533$). Text recognition was higher for mothers with less followers ($M = 75.493$, $SD = 18.409$) compared to mothers with more followers ($M = 69.168$, $SD = 18.800$). The main effect of the number of Instagram followers was not statistically significant on state anxiety, $F(1, 341) = .003$, $p = .954$, parental competence, $F(1, 341) = 2.999$, $p = .084$, life satisfaction, $F(1, 341) = .704$, $p = .402$, or image recognition $F(1, 341) = 3.265$, $p = .072$.

The interaction between idealization and the number of followers was not statistically significant on envy, $F(1, 341) = .123$, $p = .726$, state anxiety, $F(1, 341) = .001$, $p = .981$, feelings of parental competence, $F(1, 341) = .163$, $p = .686$, life satisfaction, $F(1, 341) = 1.194$, $p = .275$, or recognition $F(1, 341) = .610$, $p = .435$ (image recognition test), $F(1, 341) = 3.334$, $p = .069$ (text recognition test), but the interaction between idealization and number of followers was statistically significant on *social comparison*, $F(1, 31) = 15.683$, $p < .001$, partial $\eta^2 = .044$ (See Figure 14). Post-hoc independent-samples *t*-tests showed that comparison to non-idealized portrayals did not differ between participants with less than 300 followers ($M = 5.327$, $SD = 1.166$) and participants with more than 300 followers ($M = 5.463$, $SD = 1.119$), $t(341) = -1.096$, $p = .274$, but comparison to idealized portrayals did differ between participants with less than 300 followers and participants with more than 300 followers, $t(341) = 4.323$, p

<.001, such that participants with more than 300 followers ($M = 4.795$, $SD = 1.438$) compared themselves to the idealized portrayals significantly more than participants with less than 300 followers ($M = 4.072$, $SD = 1.638$).

Figure 14

Interaction of Idealization and Number of Followers on Social Comparison

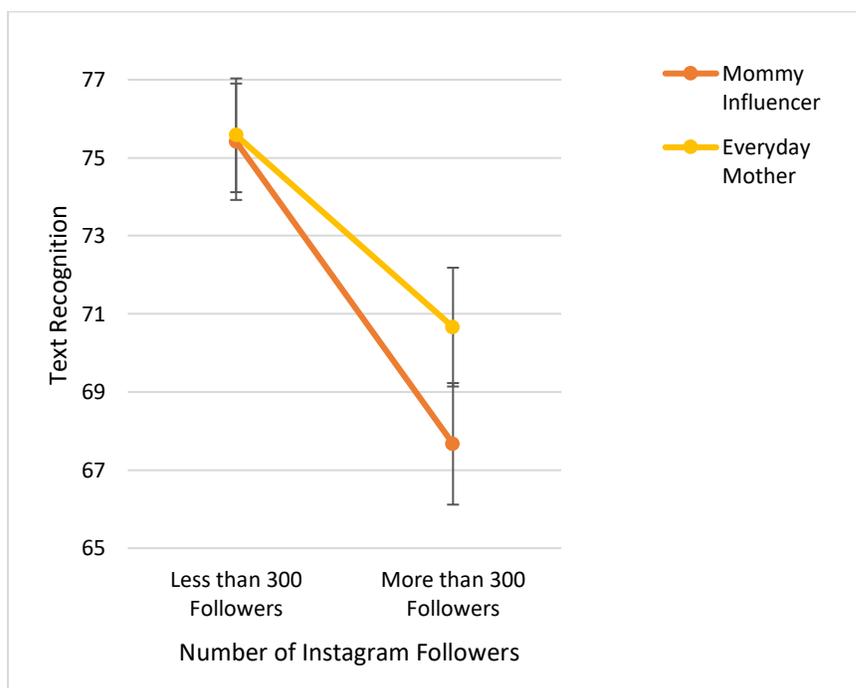


The interaction between source and the number of followers was not statistically significant on social comparisons, $F(1, 341) = .341$, $p = .559$, envy, $F(1, 341) = .228$, $p = .633$, state anxiety, $F(1, 341) = .013$, $p = .910$, feelings of parental competence, $F(1, 341) = 2.569$, $p = .110$, life satisfaction, $F(1, 341) = .158$, $p = .691$, or recognition $F(1, 341) = .845$, $p = .359$ (image recognition test), but the interaction between source and the number of followers was statistically significant on recognition for the *text recognition* test, $F(1, 341) = 3.970$, $p = .047$, partial $\eta^2 = .012$ (see Figure 15). Post-hoc paired t -tests

showed that there was a significant difference between recognition of the two different source types for participants with more than 300 followers, but recognition did not differ for participants with less than 300 followers ($M_{\text{Mommy Influencers}} = 75.411$, $SD_{\text{Mommy Influencers}} = 19.437$, $M_{\text{Everyday Mothers}} = 75.576$, $SD_{\text{Everyday Mothers}} = 19.631$), $t(178) = -.169$, $p = .866$. For participants with more than 300 followers, recognition accuracy was significantly higher for the everyday mother posts ($M = 70.663$, $SD = 19.336$), compared to the influencer mommy posts ($M = 67.673$, $SD = 20.486$), $t(163) = 2.908$, $p = .004$. Overall, the recognition accuracy for posts from both sources was much higher for participants with less than 300 followers.

Figure 15

Interaction of Source and Number of Followers on Text Recognition



For the means and standard deviations for the two-way interaction of the number of Instagram followers with idealization and the two-way interaction of the number of Instagram followers with source, see Table 4.

The three way interaction among idealization, source, and number of Instagram followers was not significant on social comparison, $F(1, 341) = .017, p = .896$, envy, $F(1, 341) = 1.170, p = .280$, state anxiety, $F(1, 341) = .382, p = .537$, parental competence, $F(1, 341) = .154, p = .695$, life satisfaction, $F(1, 341) = .953, p = .330$, image recognition, $F(1, 341) = .761, p = .384$, or text recognition, $F(1, 341) = .016, p = .899$.

Table 4

Interaction of Number of Instagram Followers with Idealization and Source

Dependent Variables	Less than 300 followers <i>M(SD)</i>	More than 300 followers <i>M(SD)</i>	<i>F</i>	<i>p</i>	η^2
Social Comparison					
Idealization			15.683	<.001	.044
Non-Idealized	5.327(1.166)	5.463(1.119)			
Idealized	4.072(1.638)	4.795(1.438)			
Source			.341	.559	.001
Mommy Influencer	4.582(1.277)	4.984(1.281)			
Everyday Mom	4.818(1.296)	5.274(1.144)			
Envy					
Idealization			.123	.726	<.001
Non-Idealized	3.209(1.620)	3.608(1.757)			
Idealized	3.433(1.663)	3.875(1.748)			
Source			.228	.633	.001
Mommy Influencer	3.367(1.554)	3.768(1.668)			
Everyday Mom	3.274(1.618)	3.715(1.741)			
State Anxiety					
Idealization			.001	.981	<.001
Non-Idealized	2.787(1.369)	2.794(1.383)			
Idealized	2.924(1.448)	2.933(1.395)			
Source			.013	.910	<.001
Mommy Influencer	2.828(1.399)	2.841(1.374)			
Everyday Mom	2.883(1.427)	2.886(1.430)			
Parental Competence					
Idealization			.163	.686	<.001
Non-Idealized	5.029(1.320)	5.254(1.329)			
Idealized	4.977(1.298)	5.229(1.296)			
Source			2.569	.110	.007
Mommy Influencer	4.966(1.352)	5.264(1.280)			
Everyday Mom	5.039(1.298)	5.218(1.344)			
Life Satisfaction					
Idealization			1.194	.275	.003

	Non-Idealized	4.9631(4.89)	5.122(1.425)			
	Idealized	4.936(1.482)	5.040(1.469)			
Source				.158	.691	<.001
	Mommy Influencer	4.943(1.485)	5.085(1.412)			
	Everyday Mom	4.956(1.483)	5.077(1.499)			
Recognition (Image recognition test)						
	Idealization			.610	.435	.002
	Non-Idealized	75.147(16.752)	72.693(16.046)			
	Idealized	78.645 (16.617)	75.195(15.347)			
Source				.845	.359	.002
	Mommy Influencer	79.356 (16.165)	75.800(16.167)			
	Everyday Mom	74.435(17.332)	72.088(15.361)			
Recognition (Text recognition test)						
	Idealization			3.334	.069	.010
	Non-Idealized	77.63(19.578)	70.116(19.986)			
	Idealized	73.357(18.906)	68.219(19.756)			
Source				3.970	.047	.012
	Mommy Influencer	75.411(19.437)	67.673(20.486)			
	Everyday Mom	75.576(19.631)	70.663(19.336)			

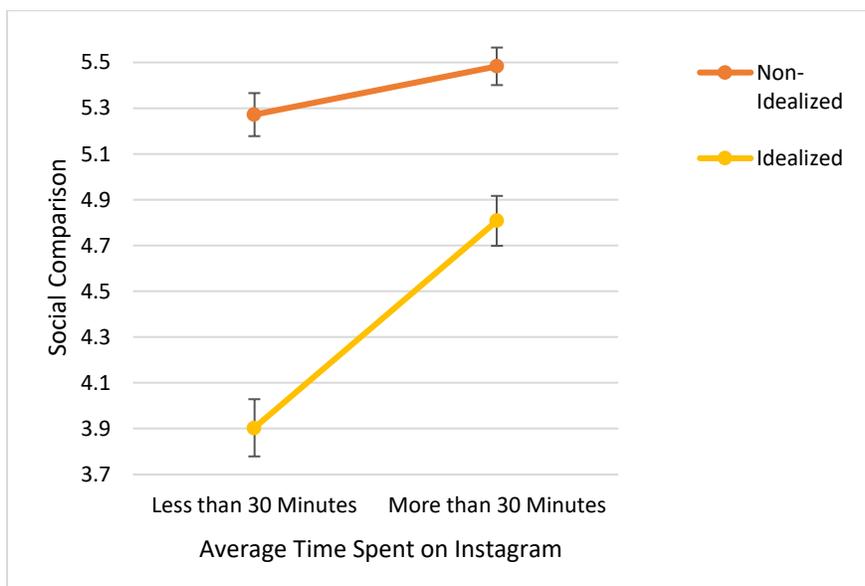
Time spent on Instagram. The main effect of time spent on Instagram was statistically significant on *social comparison*, $F(1, 341) = 19.397, p < .001$, partial $\eta^2 = .054$, *envy*, $F(1, 341) = 11.911, p = .001$, partial $\eta^2 = .034$, *parental competence*, $F(1, 341) = 7.374, p = .007$, partial $\eta^2 = .021$, *image recognition*, $F(1, 341) = 6.98, p = .009$, partial $\eta^2 = .020$, and *text recognition*, $F(1, 341) = 14.612, p < .001$, partial $\eta^2 = .041$. Social comparisons, envy, and parental competence were each higher for mothers who reported spending more than 30 minutes a day on Instagram ($M_{\text{Social Comparison}} = 5.146, SD_{\text{Social Comparison}} = 1.126, M_{\text{Envy}} = 3.779, SD_{\text{Envy}} = 1.571, M_{\text{Parental Competence}} = 5.279, SD_{\text{Parental Competence}} = 1.281$) compared to mothers who reported spending less than 30 minutes a day on Instagram ($M_{\text{Social Comparison}} = 4.588, SD_{\text{Social Comparison}} = 1.206, M_{\text{Envy}} = 3.183, SD_{\text{Envy}} = 1.603, M_{\text{Parental Competence}} = 4.904, SD_{\text{Parental Competence}} = 1.248$). Image and text recognition were higher for mothers who reported spending less than 30 minutes a day on Instagram ($M_{\text{Image Recognition}} = 77.943, SD_{\text{Image Recognition}} = 15.532; M_{\text{Text Recognition}} = 76.846, SD_{\text{Text Recognition}} = 18.188$) compared to mothers who reported spending more

than 30 minutes a day on Instagram ($M_{\text{Image Recognition}} = 73.618$, $SD_{\text{Image Recognition}} = 14.639$, $M_{\text{Text Recognition}} = 69.147$, $SD_{\text{Text Recognition}} = 18.687$). The main effect of time spent on Instagram was not statistically significant on state anxiety, $F(1, 341) = 2.773$, $p = .097$, or life satisfaction, $F(1, 341) = 3.138$, $p = .077$.

The interaction between idealization and time spent on Instagram was not statistically significant on envy, $F(1, 341) = .171$, $p = .680$, state anxiety, $F(1, 341) = .559$, $p = .455$, feelings of parental competence, $F(1, 341) = .227$, $p = .634$, life satisfaction, $F(1, 341) = 2.158$, $p = .143$, or image recognition $F(1, 341) = .088$, $p = .767$, or text recognition $F(1, 341) = .806$, $p = .330$, but the interaction between idealization and time spent on Instagram was statistically significant on *social comparison*, $F(1, 341) = 21.809$, $p < .001$, partial $\eta^2 = .060$. (see Figure 16). Post-hoc independent-samples *t*-tests showed that comparison to non-idealized portrayals did not differ between participants who spend less than 30 minutes on Instagram ($M = 5.272$, $SD = 1.183$) and participants who spend more than 30 minutes on Instagram ($M = 5.483$, $SD = 1.107$), $t(341) = -1.700$, $p = .090$. But, comparison to idealized portrayals did differ between participants who spend less than 30 minutes on Instagram and participants who spend more than 30 minutes on Instagram, $t(341) = -5.433$, $p < .001$, such that participants who spend more than 30 minutes on Instagram ($M = 4.808$, $SD = 1.441$) compared themselves to the idealized portrayals significantly more than participants who spend less than 30 minutes on Instagram ($M = 3.904$, $SD = 1.625$).

Figure 16

Interaction of Idealization and Time Spent on Instagram on Social Comparison



The interaction between source and time spent on Instagram was not statistically significant on social comparison, $F(1, 341) = .170, p = .681$, envy, $F(1, 341) = .254, p = .615$, state anxiety, $F(1, 341) = 1.052, p = .306$, feelings of parental competence, $F(1, 341) = 2.612, p = .107$, life satisfaction, $F(1, 341) = .476, p = .491$, image recognition $F(1, 341) = 918., p = .339$, or text recognition, $F(1, 341) = .953, p = 330$.

For the means and standard deviations for the two-way interaction of time spent on Instagram with idealization and the two-way interaction of time spent on Instagram with source, see Table 5.

Table 5*Interaction of Time Spent on Instagram with Idealization and Source*

Dependent Variables	Time Spent <30 minutes <i>M(SD)</i>	Time Spent >30 minutes <i>M(SD)</i>	<i>F</i>	<i>p</i>	η^2
Social Comparison					
Idealization			21.809	<.001	.060
Non-Idealized	5.272(1.183)	5.483(1.107)			
Idealized	3.904(1.625)	4.808(1.441)			
Source			.170	.681	<.001
Mommy Influencer	4.468(1.300)	5.006(1.241)			
Everyday Mom	4.708(1.273)	5.285(1.166)			
Envy					
Idealization			.171	.680	<.001
Non-Idealized	3.075(1.673)	3.646(1.677)			
Idealized	3.291(1.726)	3.913(1.663)			
Source			.254	.615	.001
Mommy Influencer	3.232(1.602)	3.807(1.592)			
Everyday Mom	3.134(1.690)	3.752(1.644)			
State Anxiety					
Idealization			.559	.455	.002
Non-Idealized	2.912(1.441)	2.698(1.317)			
Idealized	3.084(1.455)	2.810(1.386)			
Source			1.052	.306	.003
Mommy Influencer	2.948(1.433)	2.748(1.344)			
Everyday Mom	3.048(1.468)	2.760(1.385)			
Parental Competence					
Idealization			.227	.634	.001
Non-Idealized	4.932(1.303)	5.291(1.327)			
Idealized	4.875(1.263)	5.266(1.308)			
Source			2.612	.107	.008
Mommy Influencer	4.861(1.314)	5.297(1.305)			
Everyday Mom	4.946(1.280)	5.261(1.340)			
Life Satisfaction					
Idealization			2.158	.143	.006
Non-Idealized	4.859(1.571)	5.175(1.355)			
Idealized	4.849(1.518)	5.090(1.435)			
Source			.476	.491	.001
Mommy Influencer	4.864(1.523)	5.123(1.386)			
Everyday Mom	4.845(1.576)	5.143(1.411)			
Recognition (Image recognition test)					
Idealization			.088	.767	<.001
Non-Idealized	76.324(17.069)	72.189(15.758)			
Idealized	79.563(15.964)	75.047(15.954)			
Source			.918	.339	.003
Mommy Influencer	79.754(16.880)	76.064(15.592)			
Everyday Mom	76.133(16.192)	71.172(16.329)			
Recognition (Text recognition test)					
Idealization			.806	.370	.002
Non-Idealized	78.750(19.136)	70.460(20.122)			
Idealized	74.941(19.082)	67.834(19.228)			
Source			.953	.330	.003
Mommy Influencer	75.689(19.466)	68.692(20.428)			
Everyday Mom	78.002(18.956)	69.602(19.378)			

The three-way interaction among idealization, source, and time spent on Instagram was not statistically significant on social comparison, $F(1, 341) = .261, p = .610$, envy, $F(1, 341) = .056, p = .812$, state anxiety, $F(1, 341) = 3.147, p = .077$, parental competence, $F(1, 341) = .006, p = .937$, life satisfaction, $F(1, 341) = .070, p = .791$, image recognition, $F(1, 341) = 1.785, p = .186$, or text recognition, $F(1, 341) = .960, p = .328$.

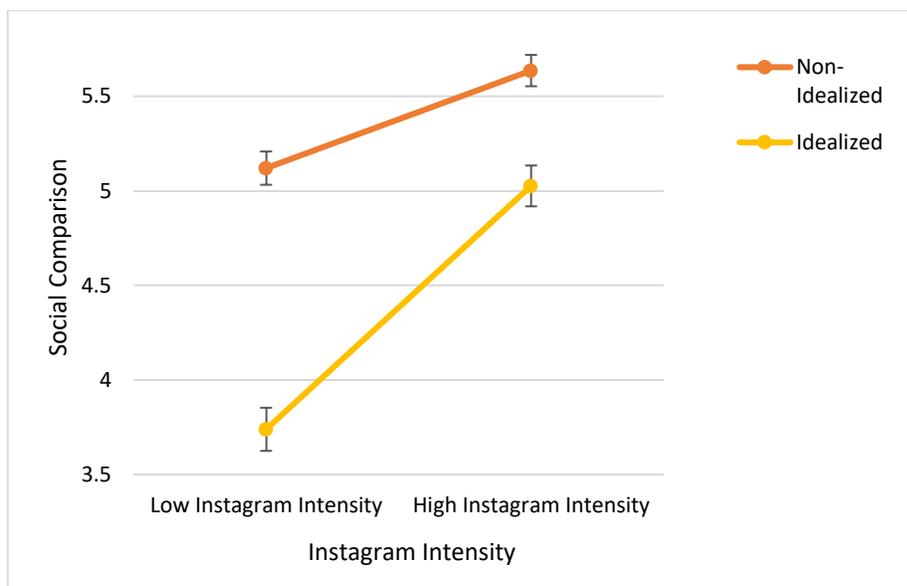
Instagram Intensity. The main effect of Instagram Intensity was not statistically significant on state anxiety, $F(1, 341) = 2.535, p = .112$, but was statistically significant on *social comparison*, $F(1, 341) = 56.913, p < .001$, partial $\eta^2 = .143$, *envy*, $F(1, 341) = 42.052, p < .001$, partial $\eta^2 = .110$, *parental competence*, $F(1, 341) = 31.366, p < .001$, partial $\eta^2 = .084$, *life satisfaction*, $F(1, 341) = 23.039, p < .001$, partial $\eta^2 = .063$, *image recognition*, $F(1, 341) = 15.821, p < .001$, partial $\eta^2 = .044$, and *text recognition*, $F(1, 341) = 23.391, p < .001$, partial $\eta^2 = .064$. Social comparisons, envy, parental competence, and life satisfaction were each higher for mothers with high Instagram Intensity ($M_{\text{Social Comparison}} = 5.331, SD_{\text{Social Comparison}} = 1.082, M_{\text{Envy}} = 4.026, SD_{\text{Envy}} = 1.674, M_{\text{Parental Competence}} = 5.467, SD_{\text{Parental Competence}} = 1.157, M_{\text{Life Satisfaction}} = 5.357, SD_{\text{Life Satisfaction}} = 1.319$) compared to mothers with low Instagram Intensity ($M_{\text{Social Comparison}} = 4.429, SD_{\text{Social Comparison}} = 1.130, M_{\text{Envy}} = 2.959, SD_{\text{Envy}} = 1.331, M_{\text{Parental Competence}} = 4.725, SD_{\text{Parental Competence}} = 1.296, M_{\text{Life Satisfaction}} = 4.628, SD_{\text{Life Satisfaction}} = 1.492$). Image recognition was higher for people was higher for mothers with low Instagram Intensity ($M = 78.854, SD = 14.939$) compared to mothers with high Instagram Intensity ($M = 72.439, SD = 14.757$), while text recognition was higher for mothers with low Instagram Intensity ($M = 77.506,$

$SD = 17.909$) compared to mothers with high Instagram Intensity ($M = 67.960$, $SD = 18.549$).

The interaction between idealization and Instagram Intensity was not statistically significant on envy, $F(1, 341) = .077$, $p = .781$, state anxiety, $F(1, 341) = .005$, $p = .943$, feelings of parental competence, $F(1, 341) = 1.986$, $p = .160$, life satisfaction, $F(1, 341) = 2.740$, $p = .099$, or recognition $F(1, 341) = 2.284$, $p = .132$ (image recognition test), $F(1, 341) = .994$, $p = .320$ (text recognition test), but the interaction between idealization and Instagram Intensity was statistically significant on social comparison, $F(1, 341) = 27.946$, $p < .001$, partial $\eta^2 = .076$. (see Figure 17). Post-hoc independent-samples t -tests showed that for both the non-idealized, $t(341) = -4.276$, $p < .001$, and the idealized, $t(341) = -8.201$, $p < .001$, portrayals of motherhood, comparison was higher among the participants with high Instagram Intensity, ($M_{\text{Non-Idealized}} = 5.636$, $SD_{\text{Non-Idealized}} = 1.014$, $M_{\text{Idealized}} = 5.026$, $SD_{\text{Idealized}} = 1.439$), compared to the participants with low Instagram Intensity, ($M_{\text{Non-Idealized}} = 5.120$, $SD_{\text{Non-Idealized}} = 1.220$, $M_{\text{Idealized}} = 3.739$, $SD_{\text{Idealized}} = 1.465$). The difference in comparison between the two groups (i.e., low and high Instagram Intensity) was more significant for the idealized portrayals (rather than the non-idealized portrayals).

Figure 17

Interaction of Idealization and Instagram Intensity on Social Comparison

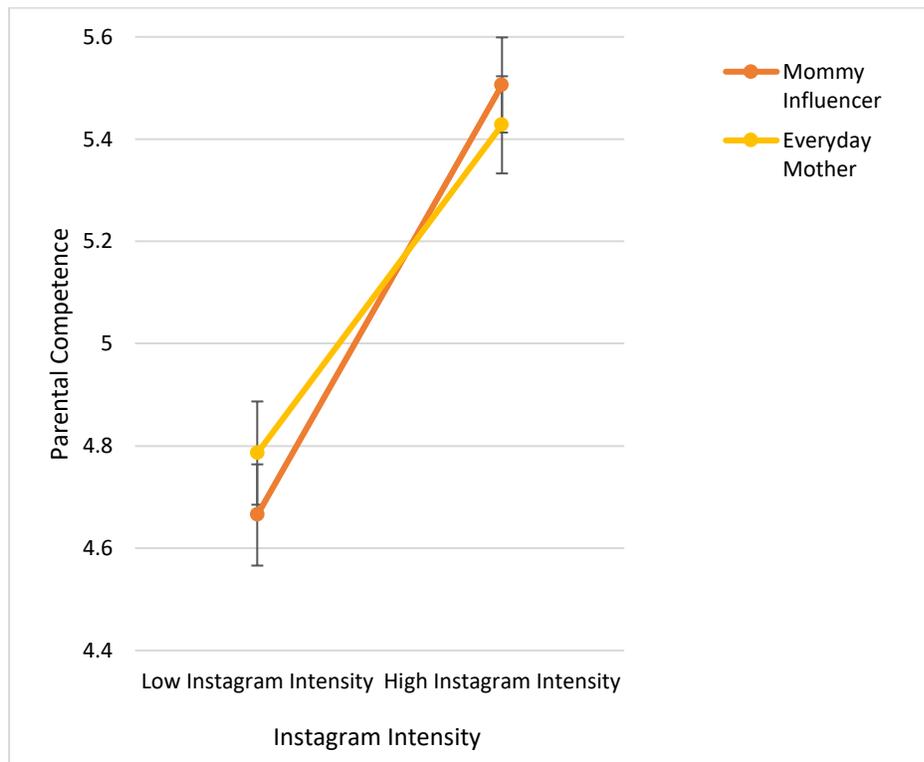


The interaction between source and Instagram Intensity was not statistically significant on comparison, $F(1, 341) = .218, p = .641$, envy, $F(1, 341) = .006, p = .936$, state anxiety, $F(1, 341) = .018, p = .894$, life satisfaction, $F(1, 341) = .031, p = .861$, image recognition $F(1, 341) = .263, p = .609$, or text recognition $F(1, 341) = .033, p = .856$, but the interaction between source and Instagram Intensity was statistically significant on parental competence, $F(1, 341) = 7.406, p = .007$, partial $\eta^2 = .021$. (see Figure 18). Post-hoc paired t -tests showed that there was a significant effect of source on parental competence for participants with low Instagram Intensity, $t(161) = 2.186, p = .030$, such that parental competence was higher after seeing the posts from the everyday mothers ($M = 4.786, SD = 1.340$) compared to the mommy influencers ($M = 4.665, SD = 1.347$). There was not a significant difference of parental competence across sources ($M_{\text{Mommy Influencer}} = 5.506, SD_{\text{Mommy Influencer}} = 1.172, M_{\text{Everyday Mother}} = 5.428,$

$SD_{\text{Everyday Mother}} = 1.232$) for the participants with high Instagram Intensity, $t(180) = 1.615$, $p = .108$.

Figure 18

Interaction of Source and Instagram Intensity on Parental Competence



For the means and standard deviations for the two-way interaction of Instagram Intensity with idealization and the two-way interaction of Instagram Intensity with source, see Table 6.

Table 6

Interaction of Instagram Intensity with Idealization and Source

Dependent Variables	Low Instagram Intensity M(SD)	High Instagram Intensity M(SD)	F	p	η^2
Social Comparison					
Idealization			27.946	<.001	.076
Non-Idealized	5.120(1.220)	5.636(1.014)			
Idealized	3.739(1.465)	5.026(1.439)			
Source			.218	.641	.001
Mommy Influencer	4.310(1.211)	5.190(1.223)			

	Everyday Mom	4.549(1.230)	5.472(1.090)			
Envy	Idealization			.077	.781	<.001
	Non-Idealized	2.846(1.1.401)	3.896(1.786)			
	Idealized	3.072(1.552)	4.157(1.698)			
	Source			.006	.936	<.001
	Mommy Influencer	2.994(1.331)	4.065(1.689)			
	Everyday Mom	2.924(1.454)	3.988(1.731)			
State Anxiety	Idealization			.005	.943	<.001
	Non-Idealized	2.914(1.490)	2.680(1.255)			
	Idealized	3.049(1.494)	2.820(1.347)			
	Source			.018	.894	<.001
	Mommy Influencer	2.959(1.463)	2.722(1.304)			
	Everyday Mom	3.004(1.512)	2.778(1.340)			
Parental Competence	Idealization			1.986	.160	.006
	Non-Idealized	4.770(1.384)	5.465(1.185)			
	Idealized	4.681(1.287)	5.470(1.200)			
	Source			7.406	.007	.021
	Mommy Influencer	4.665(1.347)	5.506(1.172)			
	Everyday Mom	4.786(1.340)	5.428(1.232)			
Life Satisfaction	Idealization			2.740	.099	.008
	Non-Idealized	4.633(1.533)	5.403(1.288)			
	Idealized	4.623(1.487)	5.310(1.388)			
	Source			.031	.861	.000
	Mommy Influencer	4.624(1.489)	5.357(1.327)			
	Everyday Mom	4.632(1.544)	5.356(1.354)			
Recognition (Image recognition test)	Idealization			2.284	.132	.007
	Non-Idealized	77.850(15.875)	70.503(16.202)			
	Idealized	79.857(16.216)	74.434(15.582)			
	Source			.263	.609	.001
	Mommy Influencer	80.848(15.587)	74.800(16.322)			
	Everyday Mom	76.860(16.245)	70.137(15.985)			
Recognition (Text recognition test)	Idealization			.994	.320	.003
	Non-Idealized	79.418(18.584)	69.221(20.231)			
	Idealized	75.594(19.165)	66.699(18.798)			
	Source			.033	.856	<.001
	Mommy Influencer	76.817(19.220)	67.141(20.180)			
	Everyday Mom	78.196(18.721)	68.779(19.379)			

The three-way interaction among idealization, source, and Instagram Intensity was not statistically significant on social comparison, $F(1, 341) = .173, p = .678$, envy, $F(1, 341) = .061, p = .805$, state anxiety, $F(1, 341) = < .001, p = .992$, parental competence, $F(1, 341) = .001, p = .977$, life satisfaction, $F(1, 341) = .975, p = .324$, image recognition, $F(1, 341) = 2.892, p = .090$, or text recognition, $F(1, 341) = 2.380, p = .124$

Chapter 5: Discussion

In an effort to get a better understanding of how portrayals of motherhood on Instagram might influence mother's well-being, this study sought to provide empirical evidence of a causal relationship between idealized motherhood portrayals and outcomes of interest such as envy, anxiety, parental competence, and life satisfaction. Research has illustrated that similar to how early mass media idealized the motherhood experience through content such as celebrity mother profiles in magazines (for a review, see Douglas & Michaels, 2004), social media is now disseminating idealized portrayals of motherhood that may be putting increased pressures on mothers and negatively affecting their mental health (e.g., Coyne et al., 2017; Moujaes & Verrier, 2020; Padoa et al., 2018). Because of the nature of social media, these idealized portrayals of motherhood that exist on social media may have even more influence over today's mothers than the portrayals that existed in traditional media. While mothers in the past century occasionally encountered motherhood portrayals when seeing a magazine in a store or reading a magazine at home, the intensity and frequency of motherhood images is much greater now with social media. Images are constantly posted, and mothers have near-constant access via mobile phones.

While idealizations of motherhood in the late twentieth century commonly featured celebrities (Douglas & Michaels, 2004), today's idealizations of motherhood on Instagram feature another sort of celebrity: social media influencers. Similar to the celebrities of the twentieth century, these mommy influencers commonly romanticize their motherhood experience while showing off the lavish lifestyles that they and their

children live. Social media, however, has also allowed for the *everyday* mother to more easily share depictions of their motherhood experience with the world (le Moignan et al., 2017). As social media use commonly serves as a highlight reel of one's life, focusing on one's moments of happiness and success rather than showcasing challenges and failures, the portrayals of motherhood coming from everyday mothers (not just celebrities and influencers) also disseminate idealized representations of motherhood. Thus, in addition to looking at the effects of the idealization of portrayals, this study also investigated the effect of the source of the Instagram posts (i.e., a mommy influencer or everyday mother).

In investigating the effects of these Instagram post message features (idealization and source), this study operated under the theoretical framework of social comparison theory which has been used to explore the effects of similar comparisons in other domains such as body image (e.g., Brown & Tiggmann, 2016; Fardouly et al., 2017). Just as portrayals of various body types have caused negative effects on mental health and body satisfaction levels by way of social comparison, it was expected that social comparison to idealized portrayals of motherhood would have negative effects. To deepen the understanding of how this occurs, this study took an information processing approach, using the limited capacity model for motivated mediated message processing (LC4MP) to suggest that social comparisons to motherhood portrayals are a form of information processing that influences the cognitive resources that are allocated to processing the social media posts. Specifically, as the Instagram posts depict portrayals of motherhood, they serve as motivationally relevant message content that

activates viewers appetitive motivational systems, increasing the cognitive resources allocated to processing of the content.

Comparisons to the Motherhood Portrayals

The new mothers in this study perceived greater similarity to the non-idealized portrayals of motherhood (compared to the idealized portrayals) and to the portrayals of motherhood from the everyday mothers (compared to the portrayals from the mommy influencers). They also reported making greater comparisons to these portrayals (i.e., non-idealized portrayals and portrayals from everyday mothers). The greater similarity and comparisons for the everyday mother source matched the study's predictions, as comparison to these mothers was expected to be much higher as a result of the similarities between the everyday mothers in the posts and the study participants themselves. Social comparison theory states that humans compare themselves to people who are like them (in terms of some relevant trait) because they serve as a more valid target of comparison to judge oneself against (Goethals & Darley, 1977; Suls et al., 2002). As perceived similarity and comparison were both greater for the everyday mother source, compared to the influencer source, these results support that motherhood portrayals on Instagram from everyday mothers lead mothers on Instagram to perceive similarities to the posts they see and compare their own motherhood experience to these portrayals.

While these effects of the source on similarity and comparison were expected, it was unclear whether social comparisons would be greater in response to the idealized or non-idealized motherhood portrayals. On the one hand, it was believed that the

idealized portrayals would lead to greater reported comparisons as a result of their attractiveness. Or, alternatively, the non-idealized portrayals could lead to greater reported comparisons as a result of their realistic depictions being perceived as more similar to the experiences of the participants (thus, making them a better comparison target)(SCT; Festinger, 1954). The latter occurred, as there was significantly greater perceived similarity and comparisons reported for the non-idealized portrayals (compared to the idealized portrayals). Given that the non-idealized portrayals were more realistic, they were likely more relatable, leading them to be perceived as more similar to the participants and their own motherhood experiences. As these non-idealized portrayals were reportedly compared to more than the idealized portrayals, this supports that new mothers on Instagram make greater comparisons to Instagram posts that portray motherhood in a non-idealized manner, rather than an idealized manner.

In looking at how the idealization of the posts interacted with the source, a similar pattern was found for the effects of the interaction on both similarity perceptions and social comparison. The results indicate that when posts are non-idealized, social comparisons and similarity perceptions are high, regardless of who the motherhood portrayal is coming from (a mommy influencer or an everyday mother). The source of the portrayal does however have an effect when the posts are idealized. Comparisons and similarity both dropped when the portrayal was idealized, but there was a more significant decrease in regard to the influencer source, illustrating that, of the four conditions, the idealized portrayals coming from the mommy influencers resulted in the

lowest levels of perceived similarity and the lowest social comparisons. To summarize, non-idealized motherhood portrayals result in high similarity perceptions and social comparisons, regardless of the source of the portrayal. And for idealized posts, similarity perceptions and social comparisons are much lower, but similarity and comparison are higher for posts from everyday mothers compared to posts from mommy influencers.

These results are further supported by the results of the recognition accuracy that examined how well information from the various Instagram motherhood portrayals was recognized.

Recognition of the Motherhood Portrayals

This study examined the participants' recognition accuracy of two different components of the Instagram posts: the visual aspect of the post (i.e., the image) and the textual aspect of the post. Limited research has examined how the process of social comparisons influences memory of messages, and in the research that has been done (e.g., Clayton et al., 2017), the focus has been on the recognition of images. Because this study was specifically interested in the effects of social comparisons in the context of Instagram posts and because there is both a visual and textual component to such posts, it was believed to be important to take both components into account to best understand how processing of the posts occurred. Given the lack of research in this area, it was unclear how the level of idealization of the motherhood portrayals would influence recognition, but the results indicate idealization affects image recognition differently than it affects text recognition. In looking at the effects of *idealization* on recognition, recognition accuracy of the images was higher for the *idealized* posts

(compared to the non-idealized posts) while recognition of the text was higher for the *non-idealized* posts (compared to the idealized posts).

As Instagram is a photo-based app, it places great emphasis on the visual component of users' posts. While text (i.e., a "caption") typically accompanies the images posted to the platform, the image has visual prominence as it's presented first with the caption presented in small font below the image. Given that the images within Instagram posts have such visual prominence and given that humans, by our nature, are visually-oriented (Kaas, 2013 Kaas & Balaram, 2014), it can be assumed that generally Instagram users look first at the image of an Instagram post before they read the text accompanying it. While the image itself communicates some message or emotional tone (e.g., a happy mother and child together), the caption (i.e., the text) is where the user can share specific details and information, ultimately communicating what the image is about. Thus, if an individual is interested in a post, they will likely not only look at the image itself but will also take the time to thoroughly read and pay attention to (i.e., elaborate) the text of the post. This notion is supported by research that was conducted by *Preview*, an official app approved by Instagram to help users plan and manage Instagram content. Instagram users were asked to share their thoughts about when they choose to read the captions they see on Instagram, and the responses indicated that users are more likely to check out the caption if the image caught their attention and that people read captions as a way to connect with the Instagram account holder on a "deeper level" (Preview, 2019). When the text of the Instagram post is read and closely attended to, the memory of the text should be higher as a result of the cognitive

resources allocated to processing the text (Lang, 2006). On the other hand, if an individual is not interested in a post, then they will likely not be as interested in paying close attention to the accompanying text and thus will not allocate as many resources to processing the text, and memory will suffer.

Thus, as recognition of the text was higher for the *non-idealized* posts (compared to the idealized posts), these results suggest that more attention was paid to the non-idealized portrayals of motherhood. While the focus on motherhood in all of the posts (idealized and non-idealized) should make all of the posts motivationally relevant for the participants, the earlier results indicated that perceived similarity was higher for the non-idealized posts, and thus it appears that because the non-idealized posts were more similar for the participants, the participants may have been more interested in the details of these posts and thus paid more attention (i.e., more thoroughly read) to them. As they were more invested in these posts and more resources were allocated to the processing of the content, this, in turn, lead recognition of the text to be higher compared to the recognition of the text for the non-idealized portrayals.

Meanwhile, less attention was paid to the text of the idealized posts, but image recognition of these posts was high. The idealized images likely automatically captured the attention of the participants (perhaps due to their attractiveness), resulting in greater recognition of the images for this condition. But the participants did not continue to put attention to these portrayals as they didn't perceive them to be similar like in the case of the non-idealized portrayals. Thus, while the text of the idealized portrayals received greater attention (than the text of the idealized portrayals), the

images of the non-idealized posts received greater attention (than the images of the idealized portrayals).

To summarize, these results suggest that while an idealized portrayal of motherhood automatically captures a mother's attention with the image (leading to greater recognition of these images), greater similarity perceptions exist for portrayals of motherhood that are non-idealized posts and this leads to greater elaboration, and, in turn, recognition of the posts' text.

In looking at the effects of the *source* on recognition, a similar occurrence was found. Image recognition was greater for the posts from the *mommy influencers* (compared to the everyday mothers), and text recognition was greater for the posts from *everyday mothers* (compared to the influencers). Just as the idealized portrayals of motherhood resulted in greater perceived similarity and greater processing of the posts (as evidenced by the text recognition test), this was also the case with the posts from the everyday mothers. Because the everyday mothers were more similar to the participants than the influencers, there was greater motivational relevance for these posts, leading the participants to become more invested in the text of these posts — increasing attention and, in turn, recognition of the text. And, just as the idealized posts (which were perceived as less similar) resulted in lowered text recognition, so did the influencer posts (which had also been perceived as less similar), causing the image recognition to be higher for the influencer posts as the text was not elaborated in this instance.

Prior research, such as the study by Clayton et al. (2017), had indicated that when social comparisons to images occur, processing can suffer as a result of there not being enough cognitive resources to encode the images. Thus, it was thought that in the current study, encoding might suffer for the portrayals of motherhood that result in the greatest amount of social comparisons. However, social comparisons in this study were reported to be higher for the non-idealized portrayals and for the portrayals from the everyday mothers, and yet recognition of the text of these posts was higher. Based on this, while social comparisons were reportedly occurring to these posts (i.e., non-idealized and everyday-mother-posts), there were still enough cognitive resources available for encoding the messages. Thus, as there was not cognitive overload, the encoding was greater when the social comparisons occurred. Had cognitive overload occurred, recognition for both the text and images of the posts would have suffered.

The interaction results (i.e., interaction of idealization and source on recognition) were such that recognition of the text was high for the non-idealized portrayals of motherhood, regardless of the source. This was in alignment with the interaction results that showed that when posts are not idealized, perceived similarity and comparison are high regardless of the source. Thus, taken together, as idealized posts (regardless of the source) increase similarity perceptions and social comparisons, this causes greater motivation to attend to the posts — as illustrated by the results of the text recognition test. Text recognition was the worst for the idealized portrayals posted by the mommy influencers. This was expected as these posts were perceived as the least similar and resulted in the least amount of comparison. With less motivation to process the posts,

less cognitive resources were allocated for the idealized posts from the mommy influencers.

For the image recognition test, recognition of the idealized portrayals did not significantly differ from recognition of the non-idealized posts within the everyday-mothers condition, but recognition was significantly higher for the idealized posts than for the non-idealized posts (within the mommy influencers condition). This was likely the result of the image within the idealized, influencers condition being attractive and eye-catching enough to result in good memory of the image. Meanwhile the combination of the post being idealized and coming from a mommy influencer led these posts to not be relevant enough to motivate attention to the rest of the message (thus causing the text recognition of these posts to be lower).

Effects of the Motherhood Portrayals on Well-Being: Envy, State Anxiety, Parental Competence & Life Satisfaction

While social comparisons were higher for the non-idealized posts than they were for the idealized posts, the idealized posts still had greater negative effects on the well-being outcomes of envy and state anxiety such that envy and state anxiety were higher after exposure to the idealized posts. These effects were expected as the study had predicted that the idealized portrayals of the motherhood would have greater negative effects on outcomes related to the participants' well-being (i.e., envy, state anxiety, parental competence, and life satisfaction) because these posts would cause upward comparisons (rather than downward or horizontal), which prior research has illustrated to have negative effects (e.g., Park & Baek, 2018; Tosun et al., 2020). Upward

comparisons on social media have specifically been found to lead to envy (Appel et al., 2015). Thus, as idealized portrayals of motherhood cause upward comparisons, this, in turn, was expected to increase envy.

Next, as the mothers in the study saw the idealized portrayals of motherhood and had feelings of envy, it was expected that they would think about their own parenting experiences and would also have feelings of anxiety as they would perhaps think that their motherhood experience wasn't matching up to the motherhood experiences portrayed in the idealized posts. The results supported this prediction as state anxiety was significantly greater for the idealized posts.

Thus, in sum, the effects of the idealization of the portrayals on envy and state anxiety were as predicted and the study results indicate that exposure to idealized portrayals of motherhood increases envy and anxiety.

The idealization of the motherhood portrayals did not have a statistically significant effect on the outcomes of parental competence or life satisfaction, so it appears that the idealization effects were not strong enough to affect one's parental competence. While prior research has shown a correlation between making motherhood comparisons on social media sites and lowered levels of parental competence (Coyne et al., 2017), the present study was not able to provide evidence of causality. Similar to the results for parental competence, the idealization effects were not strong enough to affect one's life satisfaction. However, this result was approaching significance and may be worth investigating more in the future as it could be that other characteristics (e.g., the mothers' personality, family structure, life philosophy) play an

important role in whether or not the idealization of the posts causes one's level of life satisfaction to be affected. Further, it may also be the case that long-term exposure to idealized posts leads to effects on outcomes like parental competence and life satisfaction, but this study was not able to capture the effects of long-term exposure.

While the idealization of the motherhood portrayals increased participants' envy and state anxiety, the sources of the motherhood portrayals did not have significant effects on the outcomes of envy, state anxiety, parental competence, or life satisfaction. Thus, the results of this study indicate that the idealization of the posts is more harmful than *who* the posts come from (mommy influencers or everyday mothers).

Interaction Effects of Individual Difference Variables

Lastly, this study was interested in seeing how the outcomes would be affected by an interaction of the idealization and source with particular individual difference variables: mothers' parenting status (i.e., whether or not they are a first-time mother), self-esteem, social comparison orientation, and Instagram usage (i.e., number of followers, time spent on Instagram and Instagram Intensity).

Mother's Parenting Status

Due to first-time mothers having greater uncertainties and less confidence in their parenting (Chae, 2015), it was believed that idealized portrayals of motherhood may have more profound effects on first-time mothers, compared to mothers who already have other children. The social comparison literature has indicated that individuals high in uncertainty are more likely to engage in social comparisons as a means of enhancing their self-concept (Gibbons & Buunk, 1999). The parenting status

was not found to interact and influence the effects in this study though, as there were not any significant interaction effects between idealization and parenting status for any of the outcome variables. The interaction between parenting status and *source* did not have any significant effects either. This study did find a significant main effect of parenting status though, as social comparisons were higher for non-first-time mothers. This goes against the rationale that first-time-mothers will make more comparisons than non-first-time mothers. If non-first-time-mothers care more about how they compare to other mothers, this could explain why the effects of the portrayals were not more profound among the first-time mothers. Regardless of the non-first-time mothers making more comparisons, they had higher life satisfaction compared to the first-time-mothers — as shown by the main effect of mothers' parenting status on life satisfaction.

It may be that all mothers (regardless of if they are a first-time mother) are susceptible to the effects of portrayals of motherhood on social media, but future research could investigate other characteristics of a mother's parenting experiences to see if there are other factors that interact to influence the results. For instance, the age of one's children may play a role such that being a first-time mother of a very young child (e.g., a three-month-old) may make someone more or less susceptible than being a first-time mother with an older child (e.g., a three-year-old).

Self-Esteem

There were two instances where the individual difference variable of self-esteem interacted with the features of the motherhood portrayals to influence the results. First, the interaction between self-esteem and the idealization of the portrayals had a

significant effect on life satisfaction. Second, the interaction between self-esteem and the source of the portrayals had a significant effect on text recognition. Before discussing these results, it's important to state that although the interactions were each statistically significant, the effect size was quite small. Thus, it should be kept in mind that it's possible that the significant finding was the result of the large sample size.

As the idealized portrayals of motherhood caused lowered life satisfaction for participants with low self-esteem but not for participants with high self-esteem, this shows that self-esteem is an important individual difference variable. If a mother has low self-esteem, they are more susceptible to idealized portrayals of motherhood having a negative effect on their overall life satisfaction. Mothers with high self-esteem, on the other hand, are less likely to have their life satisfaction affected by these portrayals. This finding is in line with the study's prediction and past research that has shown self-esteem to moderate the negative effects of social media. For example, just as Instagram has been found to have a stronger negative effect on body satisfaction for people with low self-esteem (Ahadzadeh et al., 2017) and as Facebook has been found to lead to more negative feelings for college students with reduced self-esteem (Lee, 2014), mothers with low self-esteem experienced greater negative effects of the comparisons when it came to life satisfaction. It was thought that self-esteem might also interact with idealization's effects on anxiety given that Moujaes and Verrier (2020) found that self-esteem moderated the relationship between online engagement with InstaMums and anxiety. However, that was not the case as there was not a significant interaction effect of idealization and self-esteem on anxiety.

For the interaction of self-esteem and source, it was found that participants with low self-esteem had low memory for motherhood portrayals from either source type (mommy influencers or everyday mothers). Based on this result, it may be the case that because of the participants' low self-esteem, both source types made them uncomfortable. This could have caused their memory to suffer as a result of cognitive overload they experienced. In other words, because of their low self-esteem, motherhood portrayals from either source type led them to compare/think about their own experiences which then interfered with their processing of the posts and led to worst recognition. While future research could be done to try to provide further evidence that this is indeed what occurred, the explanation of this effect makes sense theoretically as people with low self-esteem are generally more likely to be vulnerable to the opinions of others and may have a higher tendency to seek approval from others (Bearden et al., 1989; Kropp et al., 2005). In Clayton et al.'s (2017) study that examined how social comparisons affected memory, they illustrated that the social comparison process can interfere with memory for participants with a discrepancy between their actual and ideal self. Thus, a similar phenomenon may be occurring here in that the low self-esteem of these mothers, coupled with the social comparisons, causes cognitive overload that interferes with their memory of the posts to which they made comparisons. If this is the case, motherhood portrayals, regardless of who they come from, appear to have this effect for mother's with low self-esteem — as memory was lower for both the mommy influencer source and the everyday mother source. Meanwhile, recognition was better for the mothers with high self-esteem, and text

recognition was especially high for the participants with high self-esteem when they saw the everyday mother posts. It is likely the case that cognitive overload did not occur for these participants. Due to their high self-esteem, the mothers with high self-esteem were likely more comfortable with the portrayals and thus allocated more attention to the processing of these posts. Despite their high self-esteem, though, they still may not have been motivated to process the influencer posts (as they were perceived as less similar to them) — thus explaining why the recognition was higher for the everyday mother posts.

Social Comparison Orientation (SCO)

Given that prior research has suggested that mothers with lower social comparison orientation (SCO) may be protected against comparisons' negative effects (see de Vries et al., 2018), this study predicted that the effects of the idealized portrayals of motherhood would be more profound among mothers with high social comparison orientation (SCO). A main effect of SCO on social comparisons indicated that comparisons to the portrayals were greater among mothers with high SCO. This makes sense as individuals who are inclined to make social comparisons have been found more likely to engage in comparisons on social media (Lee, 2014). Interestingly, however, was the interaction between SCO and idealization that showed that for both the idealized and non-idealized portrayals, comparison was greater for participants with high SCO. So, if a mother is highly inclined to make social comparisons to other mothers, she will compare to Instagram posts, regardless of whether they portray motherhood in an idealized or a non-idealized manner.

The prediction that mothers with high SCO would be more negatively affected was met for one outcome variable: parental competence. While the idealization of the posts did not affect feelings of parental competence for mothers with low SCO, the idealization did affect feelings of parental competence for mothers with high SCO. For the mothers who are more inclined to make social comparisons, parental competence was much lower after exposure to idealized portrayals of motherhood, compared to exposure to non-idealized portrayals of motherhood. This finding should be considered with caution, however, as the effect size was quite small. In the case that there really is a significant interaction effect, this study did find support for the prior research that has suggested that negative effects may be more likely to occur for mothers who are inclined to compare themselves to others, but this was only the case for the parental competence outcome. A similar effect was not found with envy, anxiety, or life satisfaction.

Instagram Usage

To see how a mother's personal use of Instagram may interact with the message features of the motherhood portrayals and their effects, this study separately examined the mothers' number of Instagram followers, time spent on Instagram, and Instagram Intensity (i.e., how intensely involved they are with Instagram) as individual difference variables which influence how mothers process Instagram posts with varying levels of idealization and source.

Lee (2014) had found a positive correlation between 'Facebook Use Intensity' and social comparison frequency on Facebook, but causation hadn't been proven. With

the current study, a main effect of Instagram Intensity was found for social comparisons, such that social comparisons were greater for the mothers in this study with high Instagram Intensity scores. Of greater interest though was how the Instagram usage variables interacted with the levels of idealization and source within the motherhood portrayals.

One of the significant interaction effects that was found was the interaction between the Instagram usage variables and idealization significantly affecting social comparisons. For the idealized portrayals, comparisons were significantly higher for mothers with many Instagram followers (compared to mothers with less followers) as well as for mothers who spend a lot of time on Instagram (compared to mothers who spend less time on Instagram). Meanwhile, comparisons to the non-idealized portrayals did not differ across participants as a function of their number of followers or their time spent on Instagram. A similar—though slightly different—effect was found for the Instagram Intensity variable. Again, comparison to the idealized portrayals was much higher for mothers with high Instagram Intensity scores (compared to mothers with low Instagram Intensity scores). With this variable though, there was also a significant difference for the non-idealized portrayals such that, overall, comparisons to *both* non-idealized and idealized portrayals were higher for mothers with high Instagram Intensity (compared to low Instagram Intensity). The difference in comparison between the two groups (i.e., low and high Instagram Intensity) was more significant for the idealized portrayals (rather than the non-idealized portrayals) though. Ultimately, taken together, the interaction of idealization with these three different operationalizations of

“Instagram Usage” illustrate that mothers who are more involved in Instagram are more likely to make comparisons when they are exposed to idealized portrayals of motherhood.

Secondly, there was a significant interaction found between the number of Instagram followers and the source of the motherhood portrayals on text recognition. Recognition did not differ for participants with less than 300 followers, but for participants with more than 300 followers, recognition accuracy of the portrayals from the everyday mothers was significantly higher than recognition accuracy of the portrayals from the mommy influencers. And overall, the recognition for posts from both sources was much higher for participants with less than 300 followers. These findings could be the result of participants with more Instagram followers being more involved in Instagram and perhaps caring more about their own portrayals of motherhood (since they have more followers seeing them). In this case, perhaps thinking about their own portrayals of motherhood interfered with their message processing (and thus recognition). Since the portrayals from the mommy influencers were remembered the least for these participants, it may have been that these posts from the influencers caused the most cognitive overload. Given that the mothers in this study who have a lot of followers are a little more similar (compared to the mothers in the study with fewer followers) to the mommy influencers themselves (they both have a lot of followers), it could be more likely that the mommy influencers caused cognitive overload as a result of the participants with more followers caring more about influencers, feeling a little more similar to them, and perhaps aspiring more to be like

them. Meanwhile, the participants with less followers may care less about their own portrayals of motherhood and thus were able to process posts of each source type without interference — therefore explaining why they had good memory of each. Further research could investigate these possibilities to get a better understanding of this interaction effect.

Last, Instagram Intensity was found to interact with the source of the motherhood portrayals and affect parental competence. For mothers with low Instagram Intensity, parental competence was higher after seeing the posts from the everyday mothers compared to after seeing the posts from the mommy influencers. For the mothers with high Instagram Intensity, there was not a difference in parental competence after exposure to the two source types. This finding suggests that participants who are less involved in Instagram (i.e., have a lower Instagram Intensity score) are more susceptible to having their parental competence affected by Instagram motherhood portrayals coming from mommy influencers. This might be because as they are less involved in Instagram, they are less used to seeing posts from influencers. This could cause these posts to be less normalized for these participants and thus lead them to have greater effects.

Limitations and Future Directions

This study is not without limitations. First, it's important to keep in mind that real-life Instagram frequently involves following and interacting with people that the users personally know. In this study, the posts were not from Instagram users that the participants had personally chosen to follow. The viewing of the posts was also not in a

typical, natural manner as one would encounter them when scrolling their own social media in real life. That said, these limitations were consistent across the experimental conditions and thus should not have interfered with the study's findings. Plus, the Instagram posts in this study were real-life posts and thus very representative of what one could encounter on the platform.

A greater limitation is that while this study asked for self-report ratings of social comparisons, the measures did not specify whether or not participants were making upward or downward comparisons to the posts and if the participants were experiencing a self-discrepancy (between their actual-self and ideal-self) brought on by the portrayals. It is assumed in this study that the results of idealization on envy and anxiety occur because of the participants perceiving a discrepancy between their motherhood experience and the idealized experiences they were exposed to, but this was not directly measured. Future research involving measurement of self-discrepancies could confirm what's causing the negative effects of increased envy and anxiety by providing more evidence that these effects did in fact occur as a result of a discrepancy between the participant and the portrayals. This would also be useful for having a better idea if the interaction effects of some of the individual difference variables on memory recognition was because of cognitive overload (i.e., cognitive overload resulting from perceived discrepancies).

Further, while a pattern was seen with the results of the recognition tests and it has been theoretically speculated why this pattern occurred, there is not exact evidence that the explanation provided in this study is correct. While it was assumed that

participants looked at the images of the posts and then proceeded to process the text below the image (i.e., “the caption”) as a result of increased interest and motivation to attend to the post, future studies using eye-tracking measures (e.g., fixations, gaze points, and dwell time) could help to confirm these thoughts on the memory test results (i.e., the processing of the Instagram photo vs. text) by showing exactly which parts of the Instagram posts the participants were attracted to and spent time elaborating. Research measuring participants’ physiological responses (e.g., heart rate, facial muscle activity, and skin conductance) during message exposure would also be useful to get a greater understanding of the processing of the posts (e.g., allocation of cognitive resources and emotional responses), beyond just self-report measurements.

Finally, this study only tested effects on memory by measuring recognition accuracy. A better approach would be to analyze the data from a standpoint of signal detection theory, which enables researchers to examine both memory strength and judgement aspects of memory. Rather than just counting how many pieces of material the participant correctly identifies (i.e., calculating their accuracy level as has already been done), signal detection theory goes a step further by assessing the accuracy of one’s recognition compared to their willingness to indicate that they saw something. This is done by assessing what’s termed sensitivity and criterion bias. Measures of sensitivity indicate how accurate an individual is at discriminating what they saw from what they didn’t see (i.e., memory strength), and criterion bias examines the decision-making aspect of memory judgment by measuring how confident an individual is in making the decision of whether or not they saw or heard the information previously

(Leshner et al., 2010; Shapiro, 1994). According to the theory, as individuals, we set a personal criterion when making memory judgments, such that we all have a criterion of how familiar information must seem in order for us to decide that we do indeed recognize the information from before (Shapiro, 1994). Someone with a more liberal criterion bias is more likely to say “yes” to both forms of material (information they did previously see/hear and information that they did not), and, as a result of saying “yes” more often, is therefore more prone to make both correct and false recognitions. Someone with a more conservative criterion bias, on the other hand, is less likely to say “yes” overall, and thus is more prone to have both a small number of correct and incorrect recognitions. By computing both sensitivity and criterion bias, a researcher has the ability to determine if differences in recognition are due to actually having good memory of the information or simply just having a more liberal criterion bias (Shapiro, 1994). Looking at the recognition data from this standpoint will be the next step for the present data set.

Conclusion and Practical Implications

This study brings value to our understanding of the effects that portrayals of motherhood have on new mothers by providing evidence of how features of motherhood portrayals influence social comparisons and attention to the posts, as well as evidence of which features cause harmful effects. Evidence was found that new mothers make greater social comparisons to motherhood portrayals on social media that are *non-idealized* (rather than idealized) and to motherhood portrayals that come from an *everyday social media mother* (rather than a mommy influencer). This is

believed to be the case because of the mothers' *similarity* to these users and experiences. Self-report measures indicated these levels of comparison, but tests of the mothers' recognition of the posts provide evidence of the attention given to these posts. When new mothers perceive similarity to the portrayals they see online, they make greater comparisons to the posts, expending more cognitive resources to the careful processing of the posts. This is an important theoretical contribution, as it illustrates how encoding differs across idealistic vs. non-idealistic portrayals, as well as across the source of the portrayal (everyday mother vs. mommy influencer). We can see that perceived similarity likely plays an important role in how these posts are encoded. And by seeing that the individual components of the post (image and text) were recognized differently across conditions, we have a greater understanding of how these posts are processed during the comparison process.

Though non-idealized posts were found to result in greater comparisons and attention, this study found that these comparisons were not harmful. Instead, exposure to *idealized* portrayals of motherhood are more damaging. Despite not receiving as much attention and comparison, they increased levels of envy and anxiety for the new mothers in this study.

Further, this study's exploration of individual difference characteristics of new mothers illustrates that the effects of motherhood portrayals differ across mothers as a function of their self-esteem, social comparison orientation, and Instagram usage. Particularly, this study indicates that mothers with low self-esteem are more susceptible to having their life satisfaction decrease as a result of exposure to idealized portrayals of

motherhood. And, mothers who have a personal tendency to make social comparisons to other mothers are more susceptible to experiencing decreased feelings of parental competence after exposure to portrayals of motherhood. For mothers less involved in Instagram, motherhood portrayals from mommy influencers were found to decrease levels of parental competence.

These findings have many important practical implications, including implications for mothers, health care professionals, strategic communicators, and advertisers. As portrayals of motherhood capture the attention of new mothers, it's important that today's mothers are aware of the possibility that exposing themselves to such posts may affect their mental health. Simply being aware that social media can have these effects is an important start for new mothers. This awareness may help them to understand why they are experiencing certain emotions and could aid in helping them to see the value in taking breaks from social media.

For health professionals engaging with mothers who are experiencing difficulties such as anxiety and/or postpartum depression, it may be useful to ask about their patients' social media use to see if their online engagement is playing a role in worsening their mental health and perceived parenting abilities. Encouraging the un-following of particular Instagram accounts as well as encouraging different (offline) social activities may go a long way in improving the mental health of some mothers. Also, from a strategic communication standpoint, it could be exceedingly beneficial to create messaging that communicates the dangers of social media to new mothers. As a specific example, strategic communicators could create videos that discuss the potential

harm of social media for new mothers and hospitals could then require that new mothers watch these videos prior to being released after the delivery of their child. New parents commonly have to watch videos about new dangers that they have to consider as parents (e.g., videos covering topics such as SIDS and shaken-baby syndrome), and thus it would make sense for videos on this topic to be included. Additionally, similar precautionary videos would also be useful for mothers in the process of adoption or foster care, as they, too, may be affected by such comparisons.

Lastly, this study has important implications for advertisers. From an ethical standpoint, advertisers who use paid sponsorships, by way of social media influencers, should consider the potential outcome that this sort of advertising is having. Also, as the portrayals of motherhood that were more similar resulted in greater levels of attention, this study's findings may also suggest that advertising aimed at new mothers may receive greater attention (and thus be more effective) if it conveys motherhood in a relatable manner. Rather than presenting motherhood as a picture-perfect experience, it may be beneficial for advertisers to feature realistic representations of motherhood that attract the attention of new mothers because they can relate.

Overall, by applying this study's findings in a variety of different realms (mothers' knowledge, healthcare settings, and strategic communication/advertising), we can potentially improve the well-being of new mothers and mitigate negative effects from social media comparisons.

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<https://doi.org/10.1037/0033-2909.106.2.231>

APPENDIX A



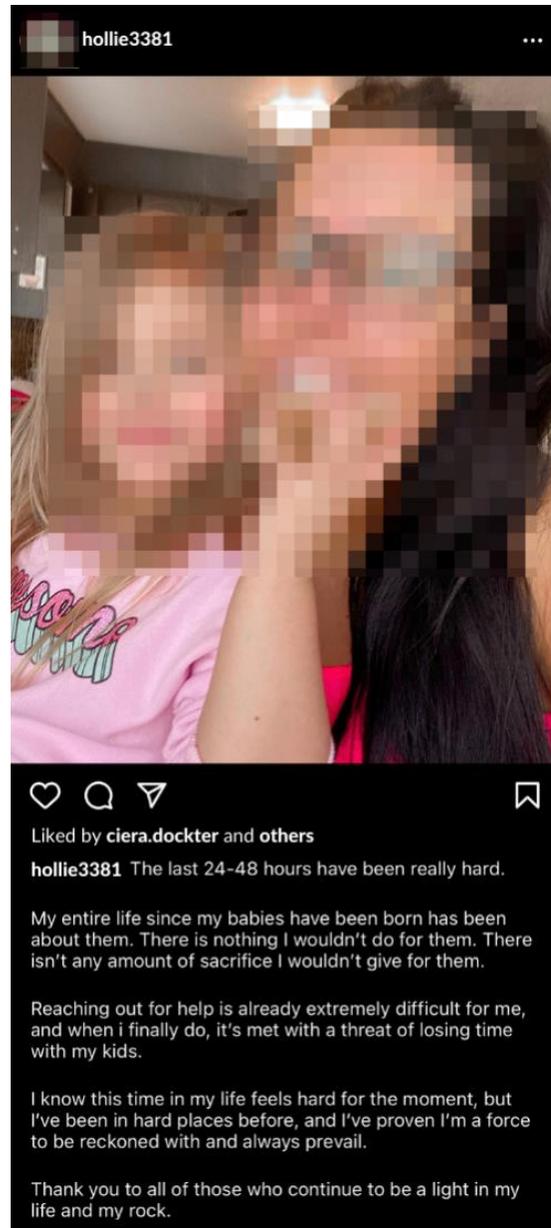
Instagram post in the Idealized, Mommy Influencer Condition



Instagram post in the Idealized, Everyday Mother Condition



Instagram post in the Non-Idealized, Mommy Influencer Condition



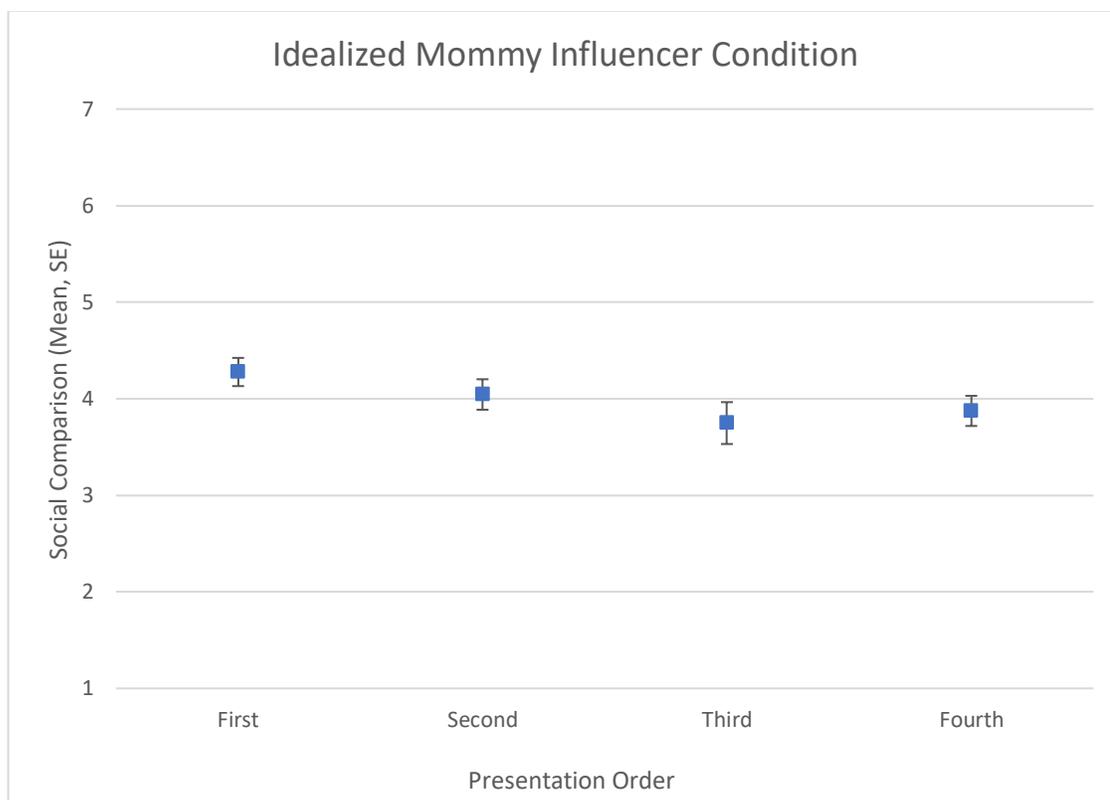
Instagram post in the Non-Idealized, Everyday Mother Condition

Examples of Experimental Stimuli (Photos have been blurred in the everyday mothers' conditions to allow for users' privacy. The images were not blurred during the experiment.)

APPENDIX B

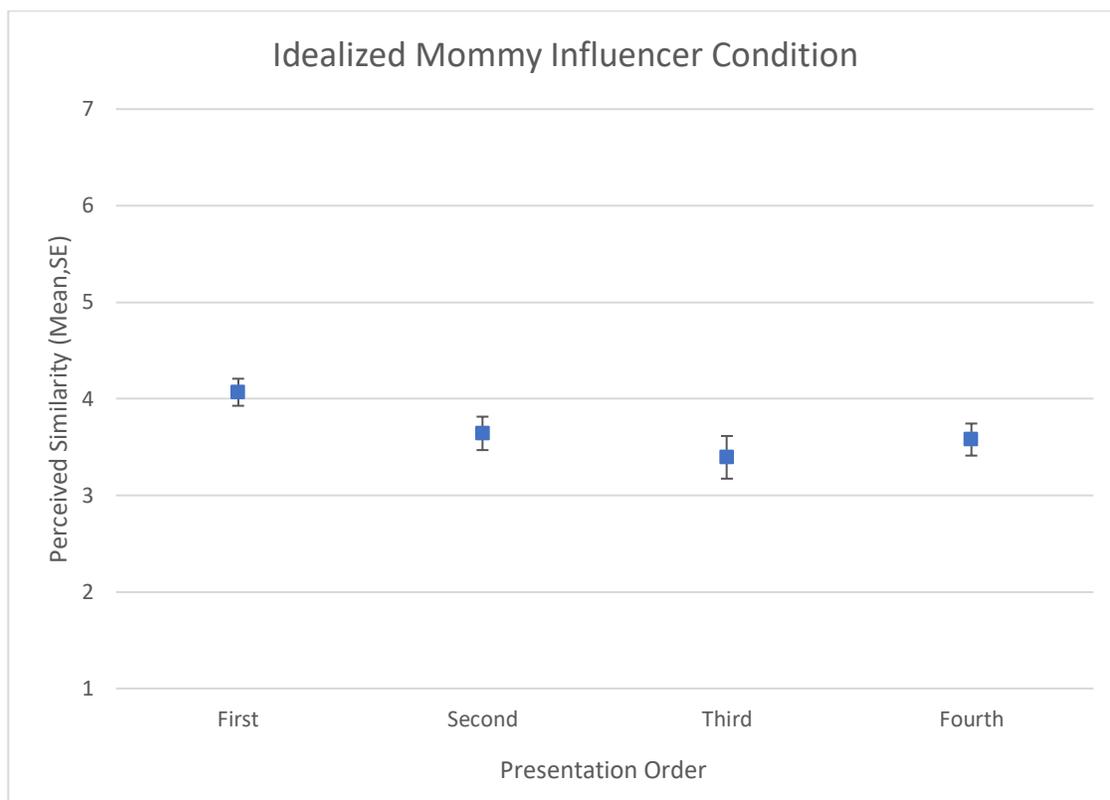
Mean, Standard Error, and Confidence Interval for Social Comparison Outcome across the Four Presentation Orders of the Idealized Mommy Influencer Condition

Presentation Order	M	SE	Low CI	High CI
First	4.277	0.146	3.989	4.566
Second	4.044	0.158	3.732	4.356
Third	3.748	0.217	3.315	4.181
Fourth	3.874	0.156	3.565	4.183



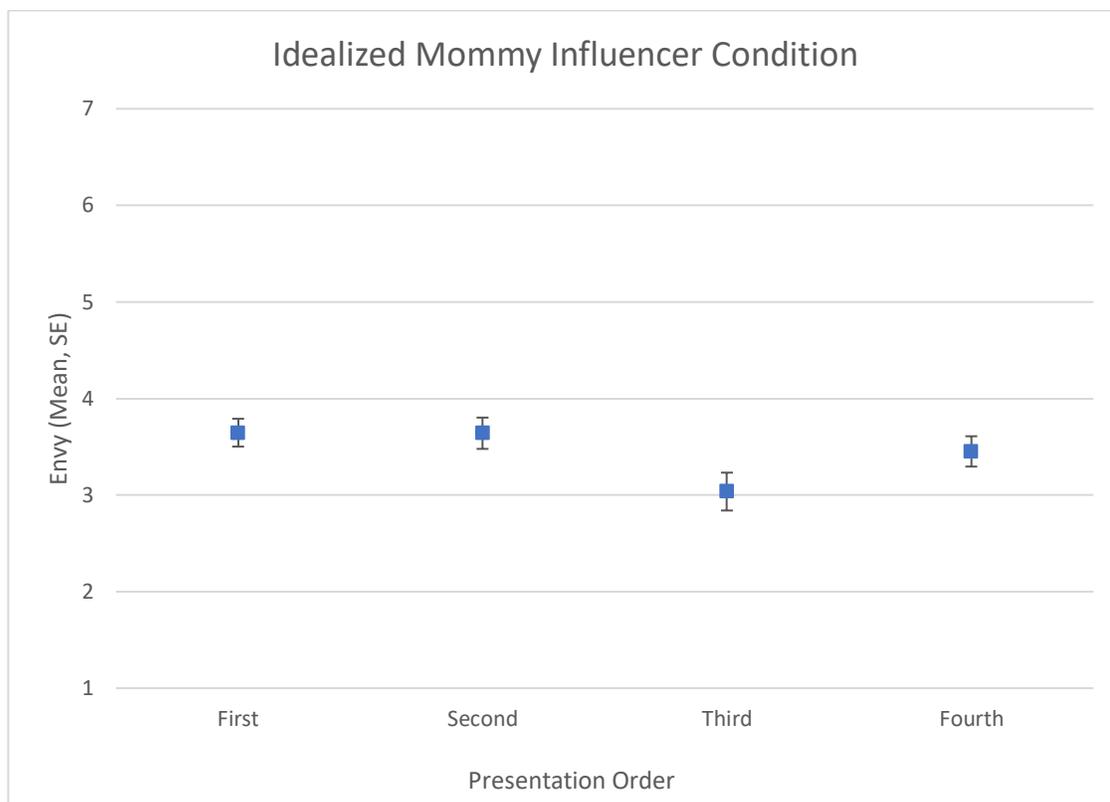
Mean, Standard Error, and Confidence Interval for Perceived Similarity Outcome across the Four Presentation Orders of the Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	4.068	0.140	3.790	4.345
Second	3.642	0.173	3.299	3.985
Third	3.394	0.221	2.951	3.837
Fourth	3.578	0.166	3.251	3.906



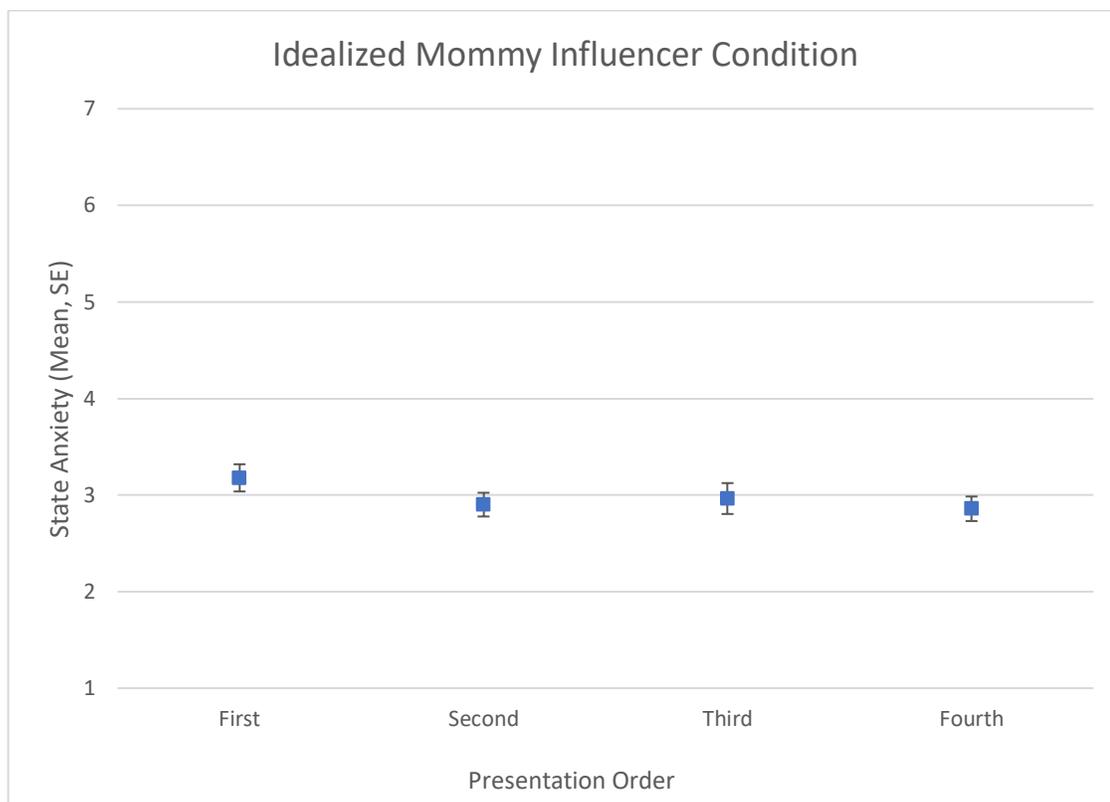
Mean, Standard Error, and Confidence Interval for Envy Outcome across the Four Presentation Orders of the Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	3.646	0.144	3.360	3.391
Second	3.640	0.162	3.320	3.961
Third	3.036	0.196	2.644	3.427
Fourth	3.452	0.157	3.140	3.763



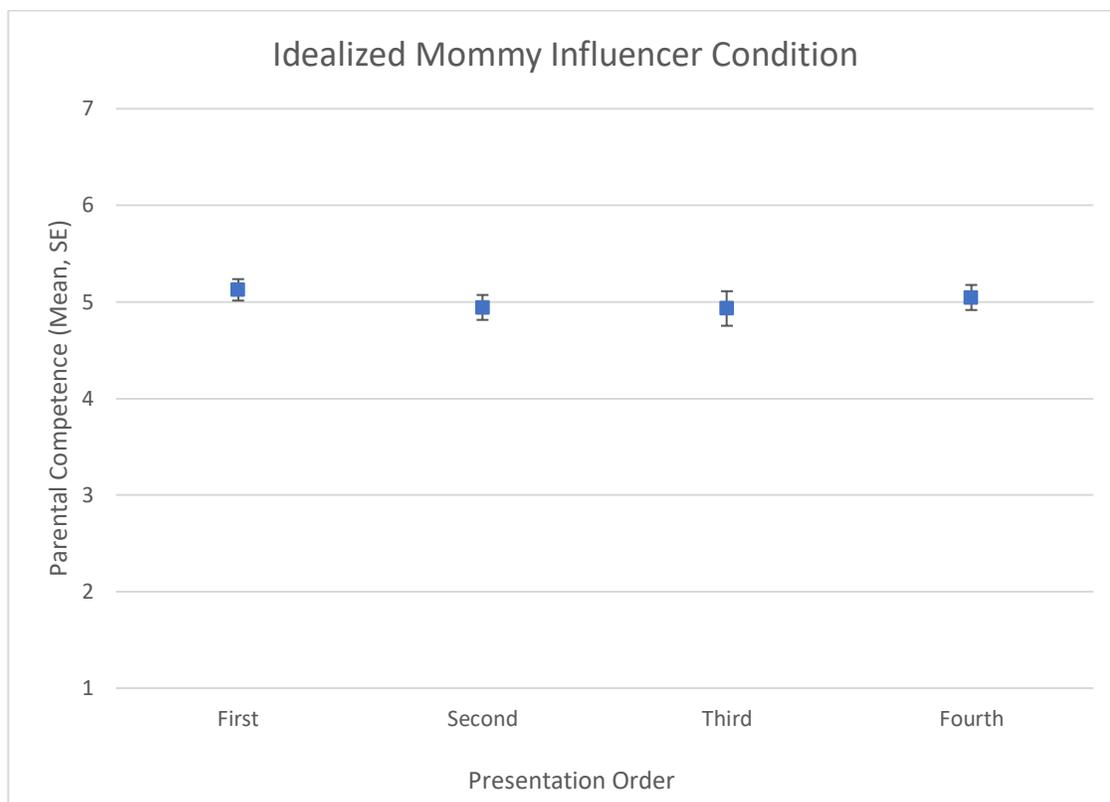
Mean, Standard Error, and Confidence Interval for State Anxiety Outcome across the Four Presentation Orders of the Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	3.178	0.141	2.898	3.457
Second	2.901	0.123	2.656	3.145
Third	2.964	0.160	2.644	3.284
Fourth	2.858	0.127	2.606	3.109



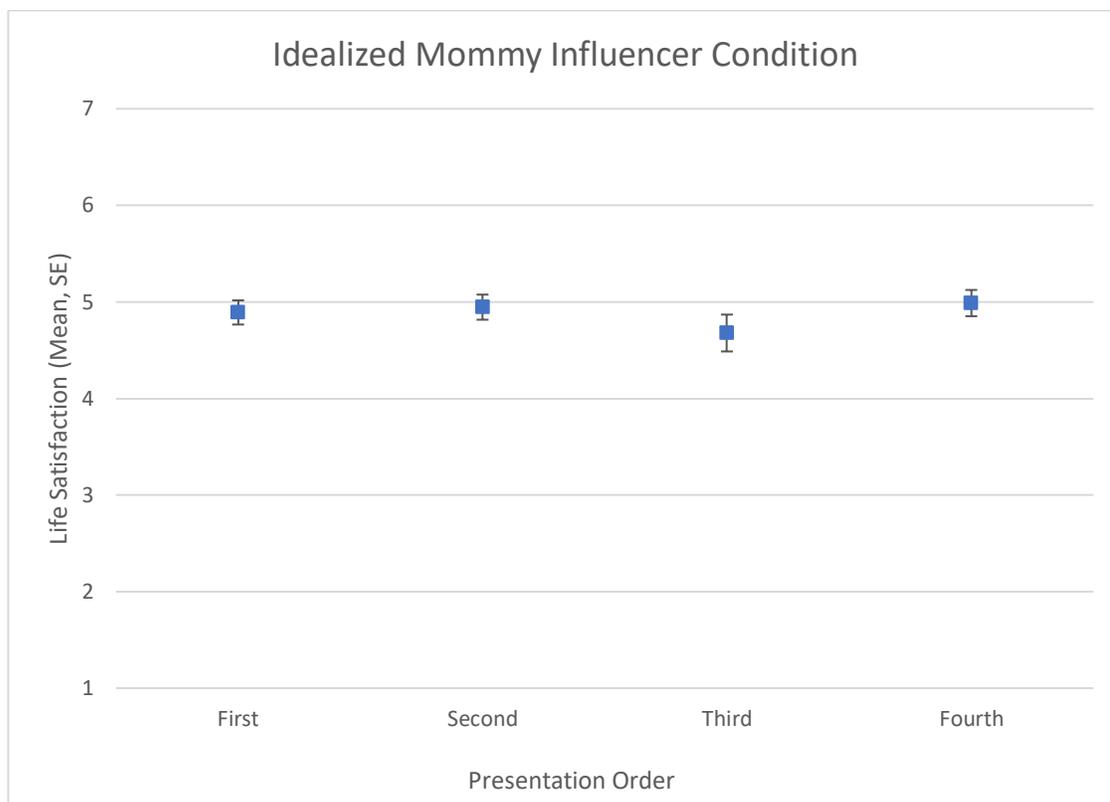
Mean, Standard Error, and Confidence Interval for Parental Competence Outcome across the Four Presentation Orders of the Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	5.125	0.111	4.905	5.345
Second	4.943	0.129	4.687	5.199
Third	4.932	0.179	4.575	5.290
Fourth	5.046	0.130	4.789	5.303



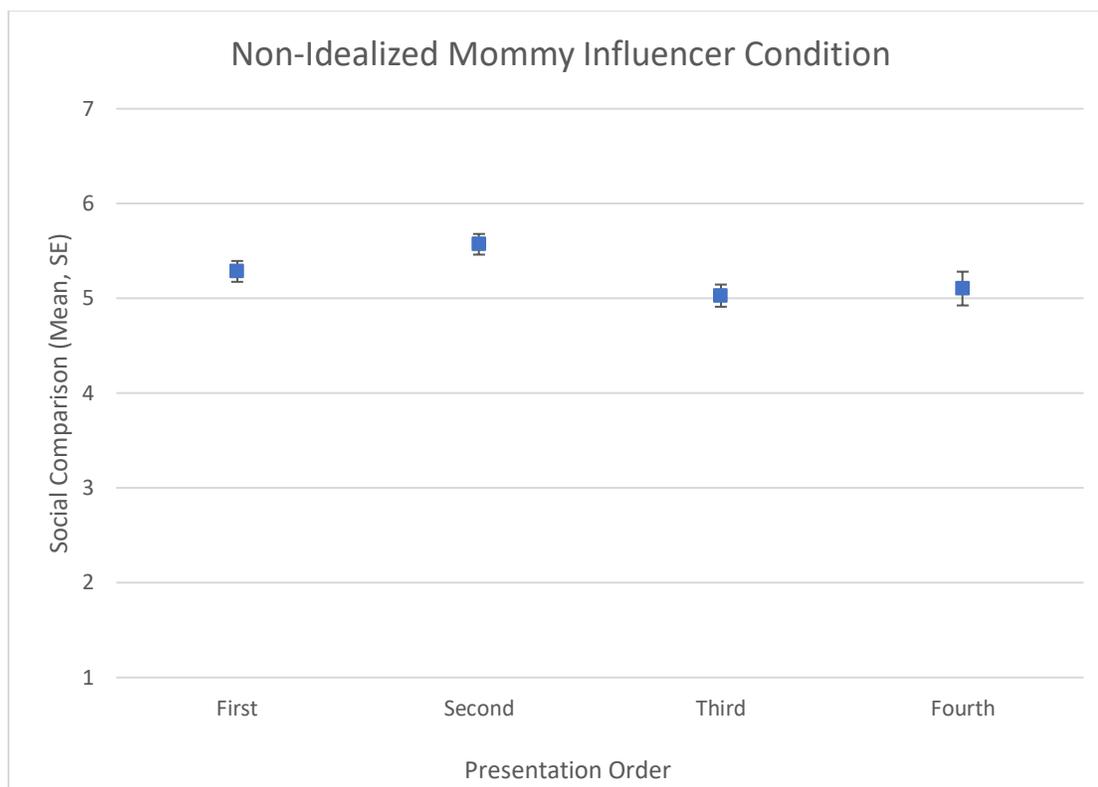
Mean, Standard Error, and Confidence Interval for Life Satisfaction Outcome across the Four Presentation Orders of the Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	4.891	0.125	4.645	5.138
Second	4.946	0.130	4.689	5.202
Third	4.678	0.191	4.297	5.059
Fourth	4.988	0.136	4.718	5.258



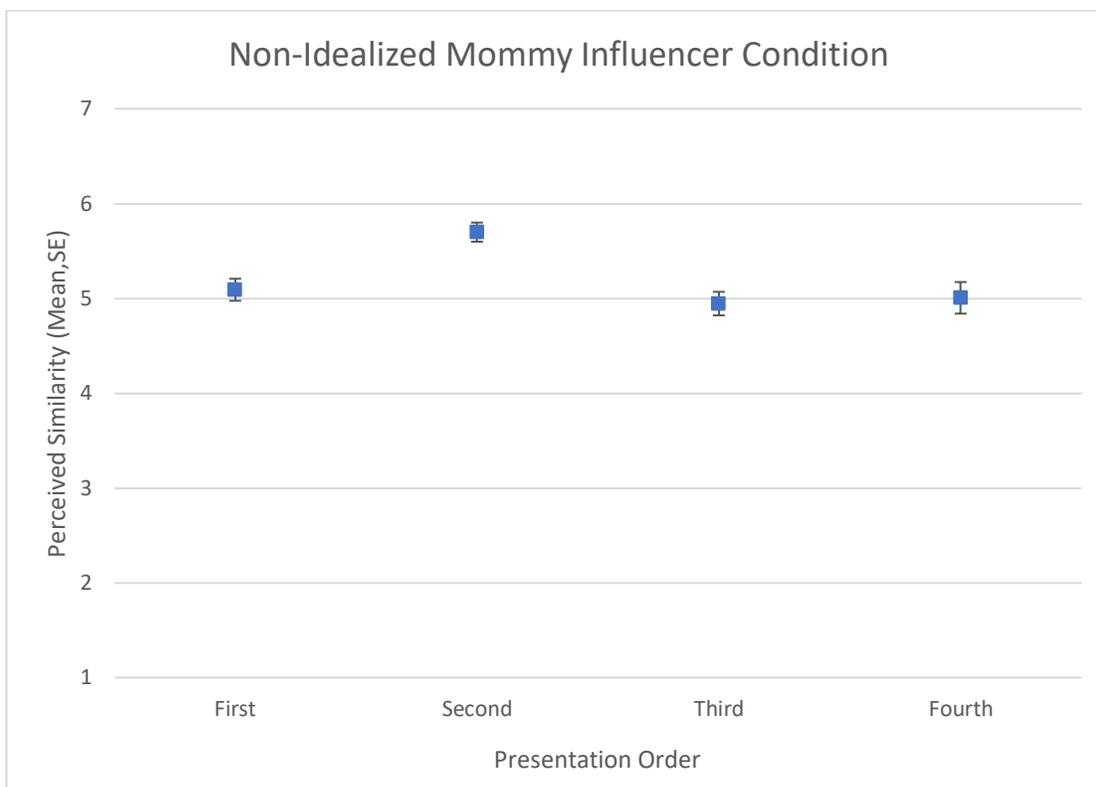
Mean, Standard Error, and Confidence Interval for Social Comparison Outcome across the Four Presentation Orders of the Non-Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	5.284	0.110	5.067	5.502
Second	5.570	0.109	5.354	5.785
Third	5.028	0.117	4.797	5.260
Fourth	5.103	0.178	4.748	5.458



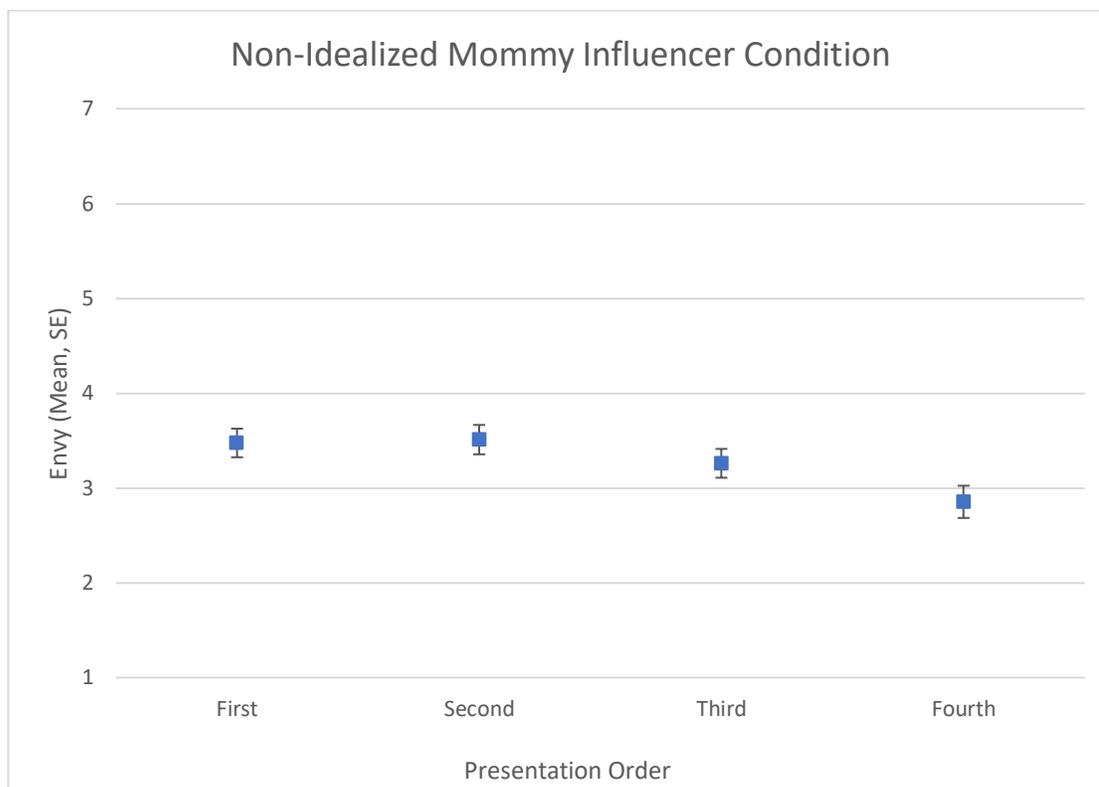
Mean, Standard Error, and Confidence Interval for Perceived Similarity Outcome across the Four Presentation Orders of the Non-Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	5.091	0.116	4.862	5.321
Second	5.699	0.101	5.498	5.899
Third	4.945	0.124	4.700	5.190
Fourth	5.006	0.1667	4.673	5.338



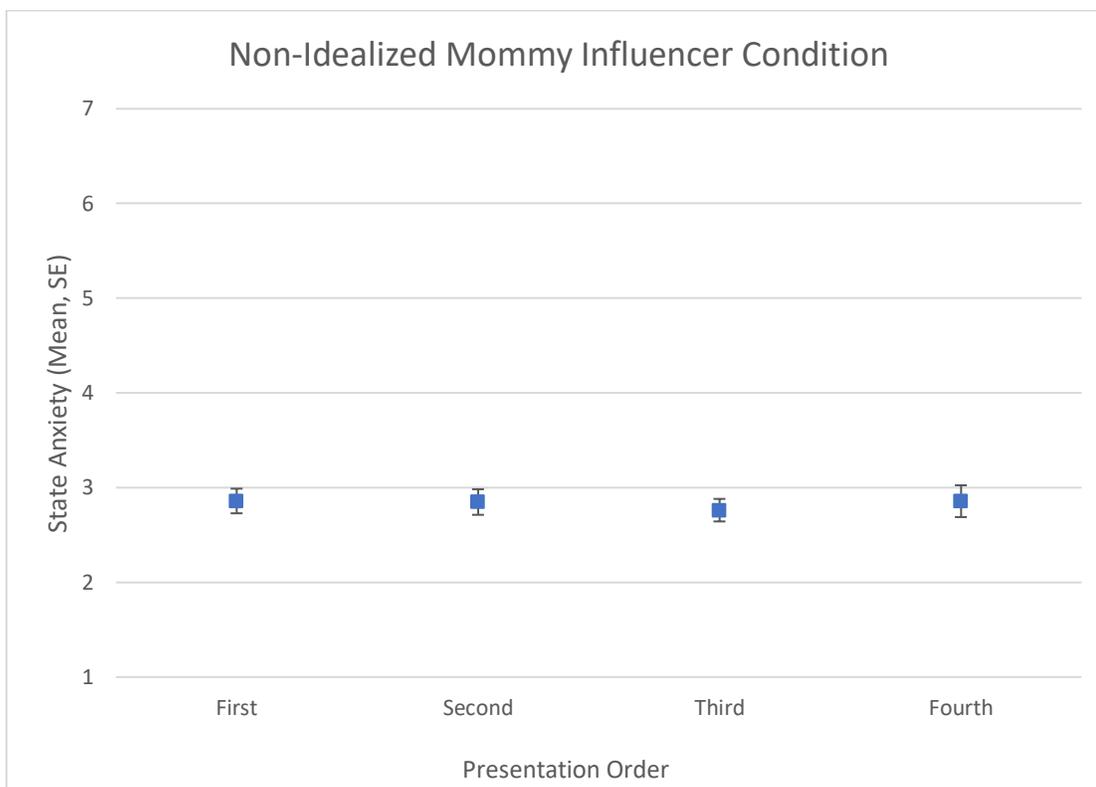
Mean, Standard Error, and Confidence Interval for Envy Outcome across the Four Presentation Orders of the Non-Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	3.475	0.151	3.176	3.774
Second	3.510	0.155	3.203	3.817
Third	3.260	0.152	2.958	3.562
Fourth	2.854	0.170	2.505	3.185



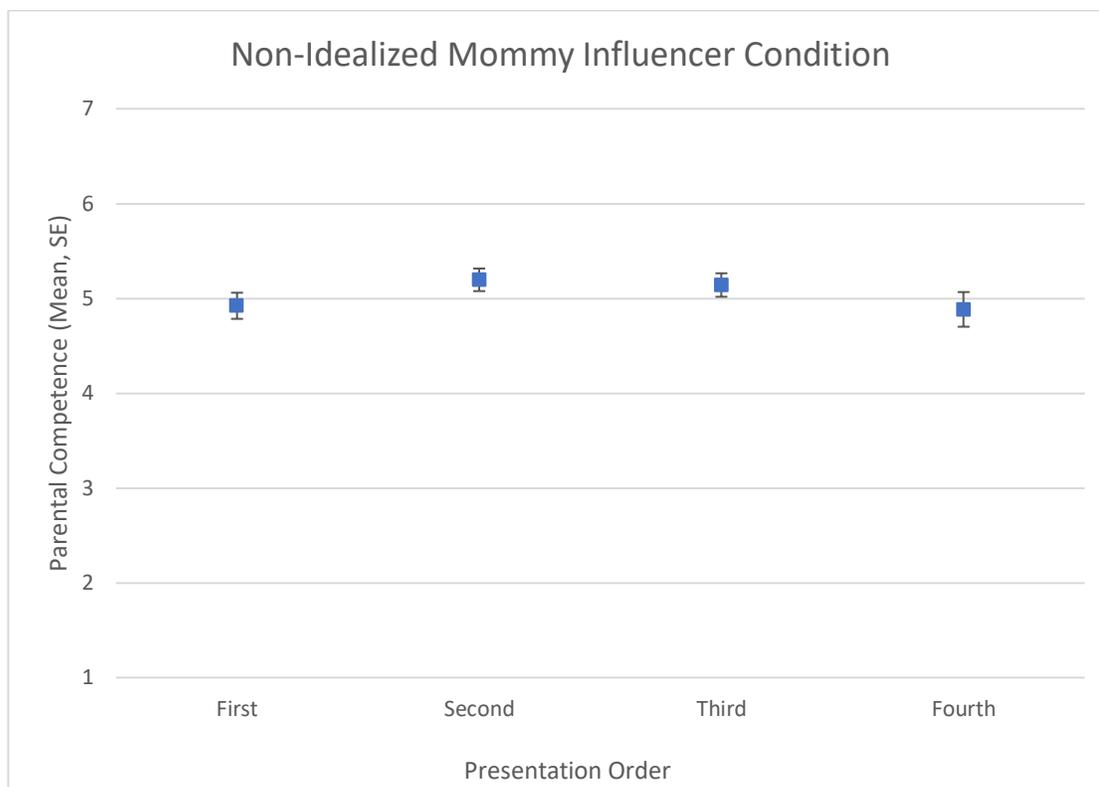
Mean, Standard Error, and Confidence Interval for State Anxiety Outcome across the Four Presentation Orders of the Non-Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	2.859	0.130	2.603	3.115
Second	2.848	0.135	2.582	3.114
Third	2.762	0.119	2.526	2.997
Fourth	2.857	0.168	2.522	3.193



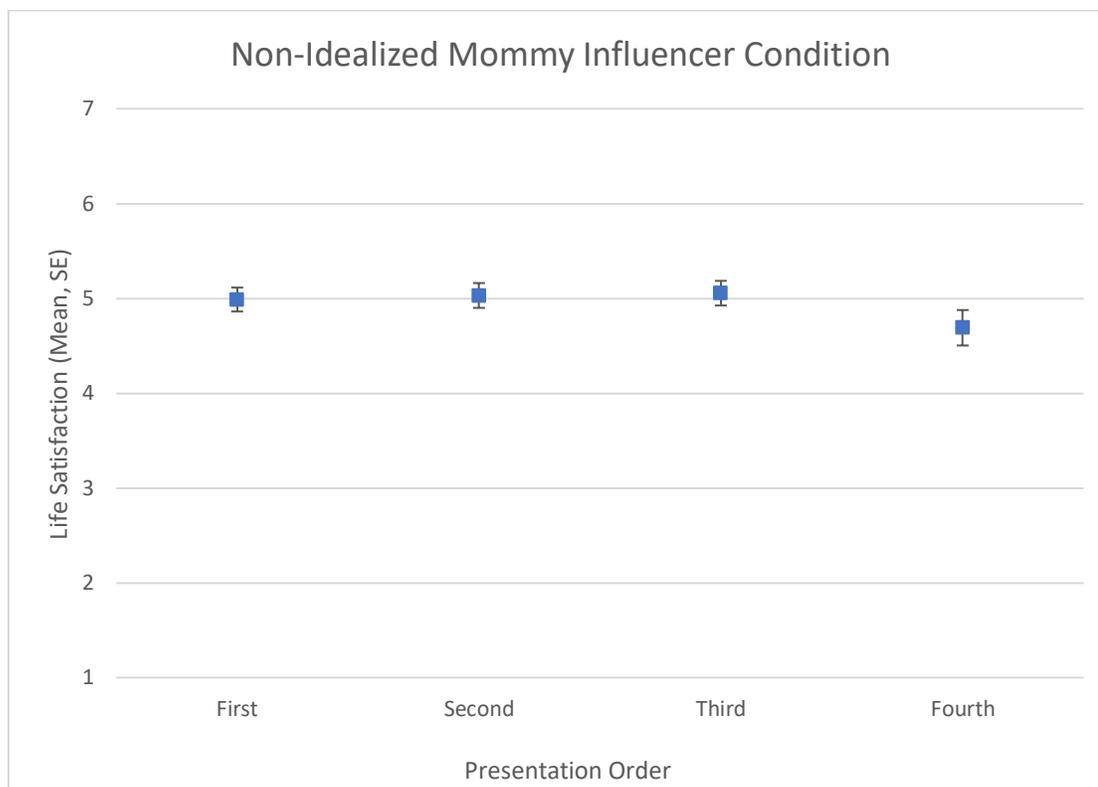
Mean, Standard Error, and Confidence Interval for Parental Competence Outcome across the Four Presentation Orders of the Non-Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	4.922	0.138	4.649	5.195
Second	5.196	0.119	4.961	5.431
Third	5.141	0.124	4.896	5.386
Fourth	4.884	0.183	4.518	5.250



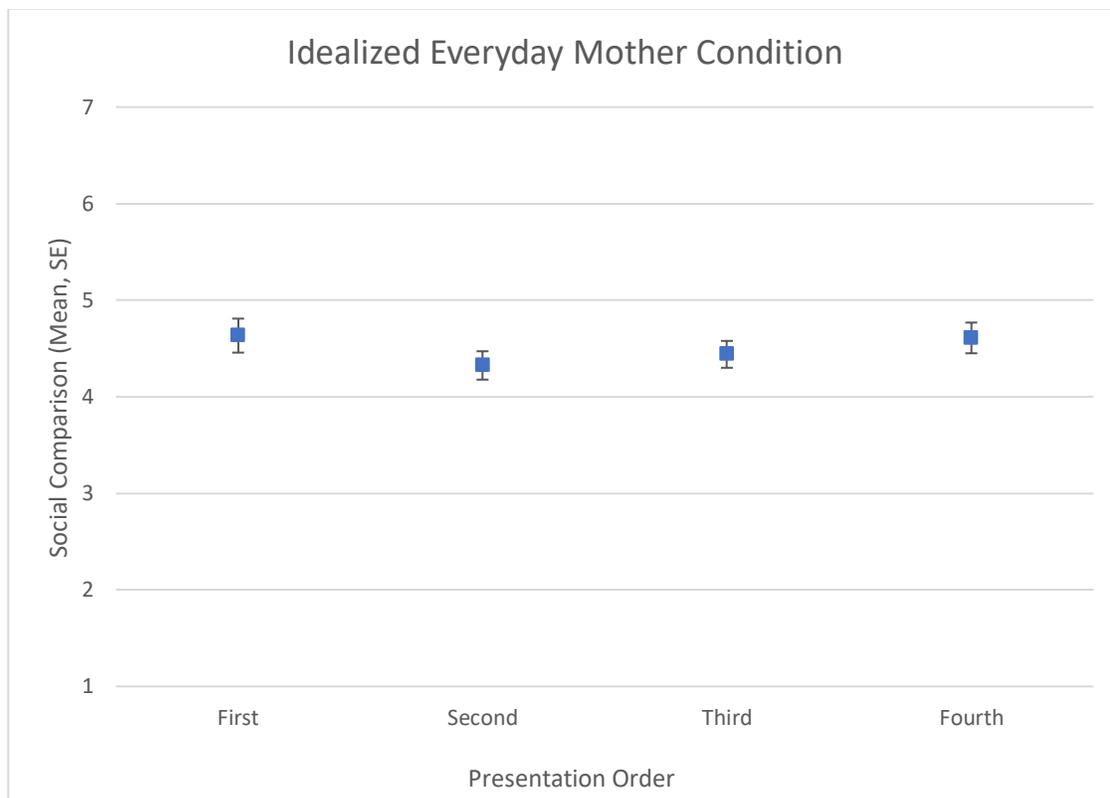
Mean, Standard Error, and Confidence Interval for Life Satisfaction Outcome across the Four Presentation Orders of the Non-Idealized Mommy Influencer Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	4.988	0.126	4.738	5.237
Second	5.031	0.131	4.773	5.289
Third	5.055	0.130	4.799	5.312
Fourth	4.690	0.187	4.317	5.064



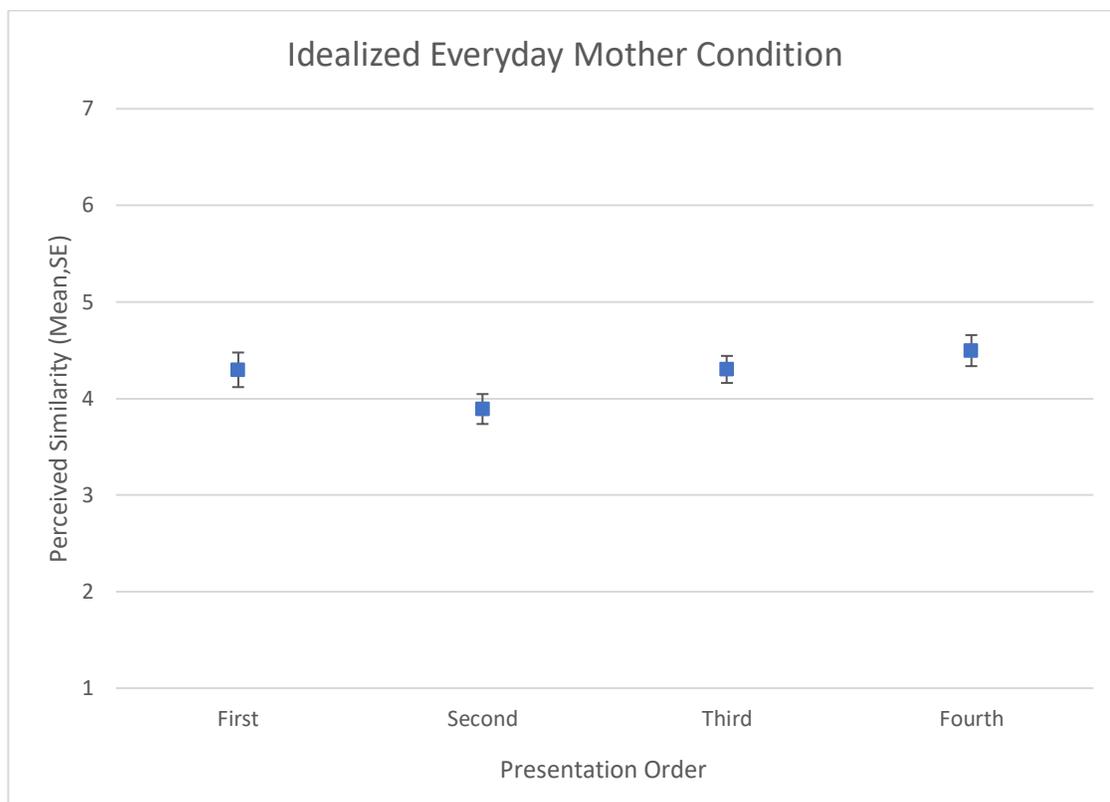
Mean, Standard Error, and Confidence Interval for Social Comparison Outcome across the Four Presentation Orders of the Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	4.633	0.176	4.282	4.984
Second	4.324	0.147	4.032	4.615
Third	4.439	0.139	4.164	4.714
Fourth	4.609	0.159	4.294	4.925



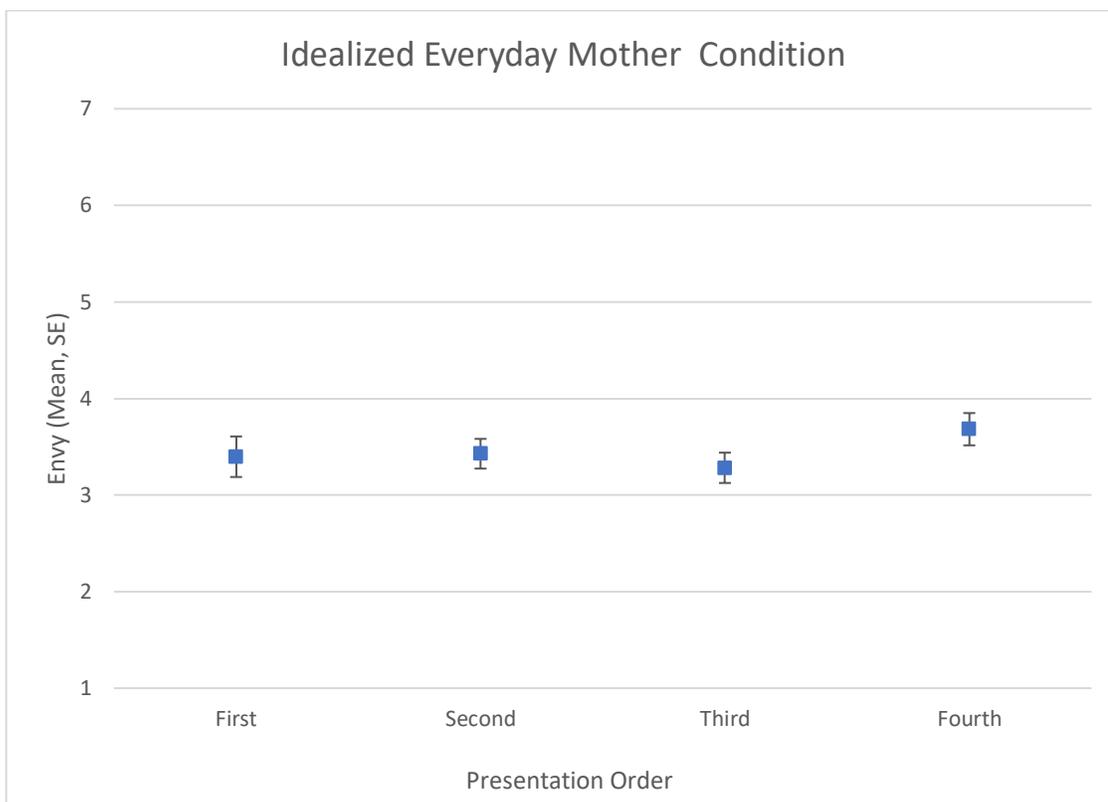
Mean, Standard Error, and Confidence Interval for Perceived Similarity Outcome across the Four Presentation Orders of the Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	4.297	0.179	3.941	4.654
Second	3.891	0.155	3.584	4.198
Third	4.301	0.140	4.024	4.579
Fourth	4.496	0.161	4.177	4.815



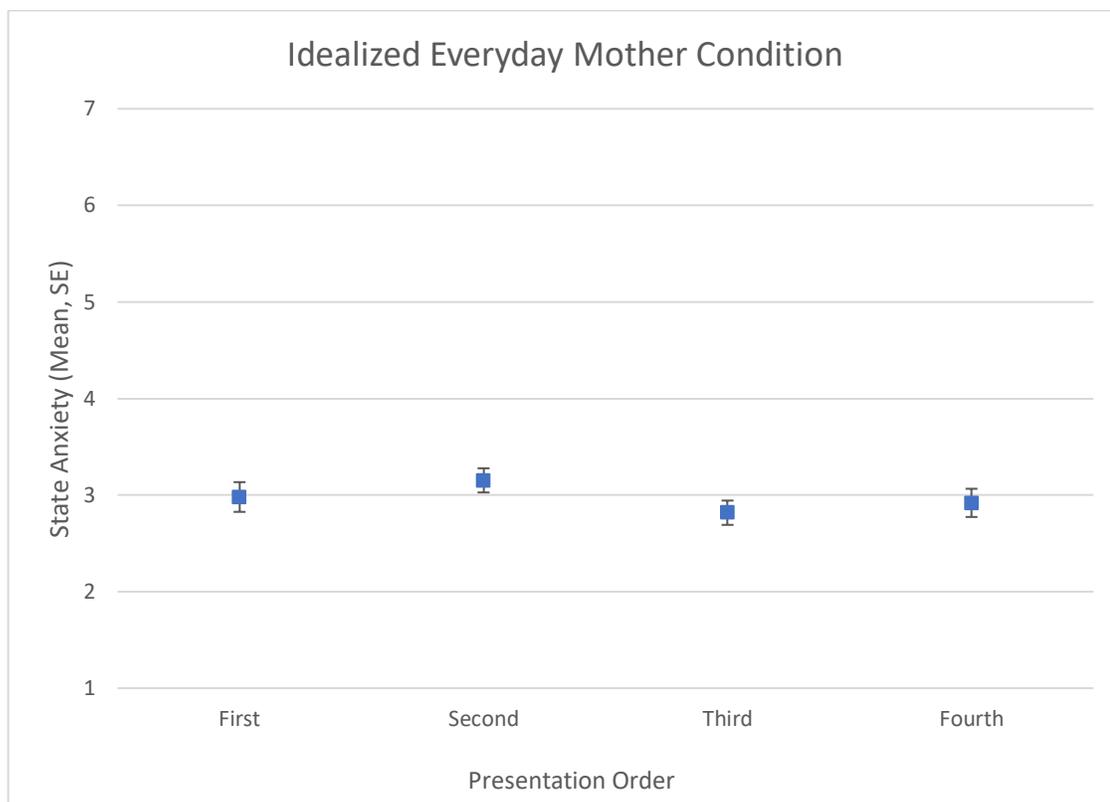
Mean, Standard Error, and Confidence Interval for Envy Outcome across the Four Presentation Orders of the Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	3.397	0.210	2.979	3.815
Second	3.428	0.154	3.123	3.733
Third	3.282	0.157	2.971	3.592
Fourth	3.682	0.167	3.352	4.012



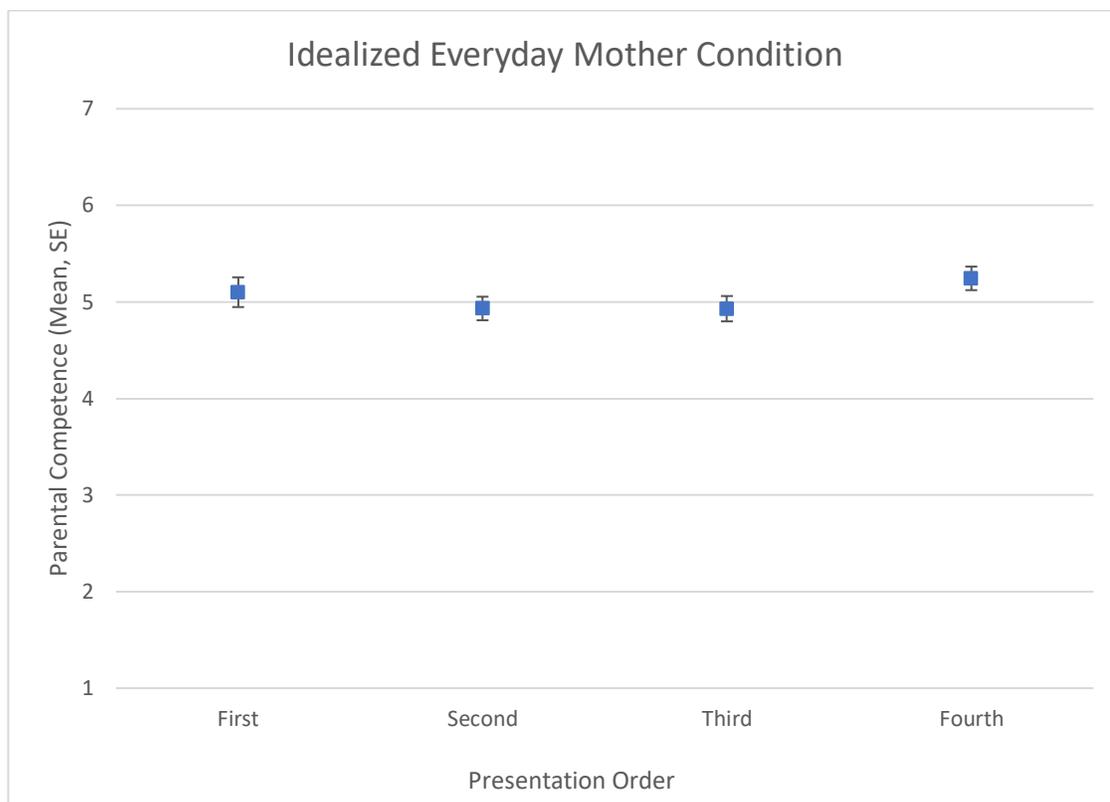
Mean, Standard Error, and Confidence Interval for State Anxiety Outcome across the Four Presentation Orders of the Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	2.98	0.154	2.673	3.288
Second	3.152	0.125	2.905	3.398
Third	2.817	0.126	2.568	3.067
Fourth	2.919	0.146	2.631	3.206



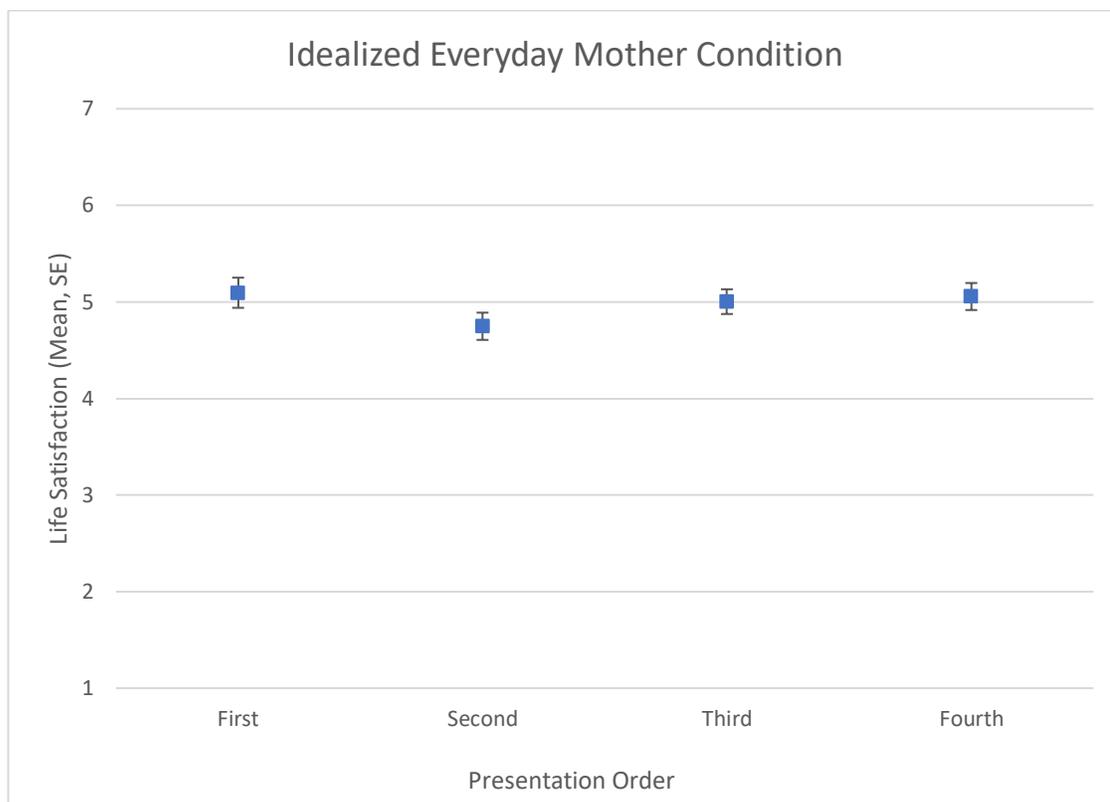
Mean, Standard Error, and Confidence Interval for Parental Competence Outcome across the Four Presentation Orders of the Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	5.101	0.154	4.794	5.407
Second	4.932	0.122	4.691	5.174
Third	4.930	0.131	4.672	5.189
Fourth	5.244	0.122	5.003	5.486



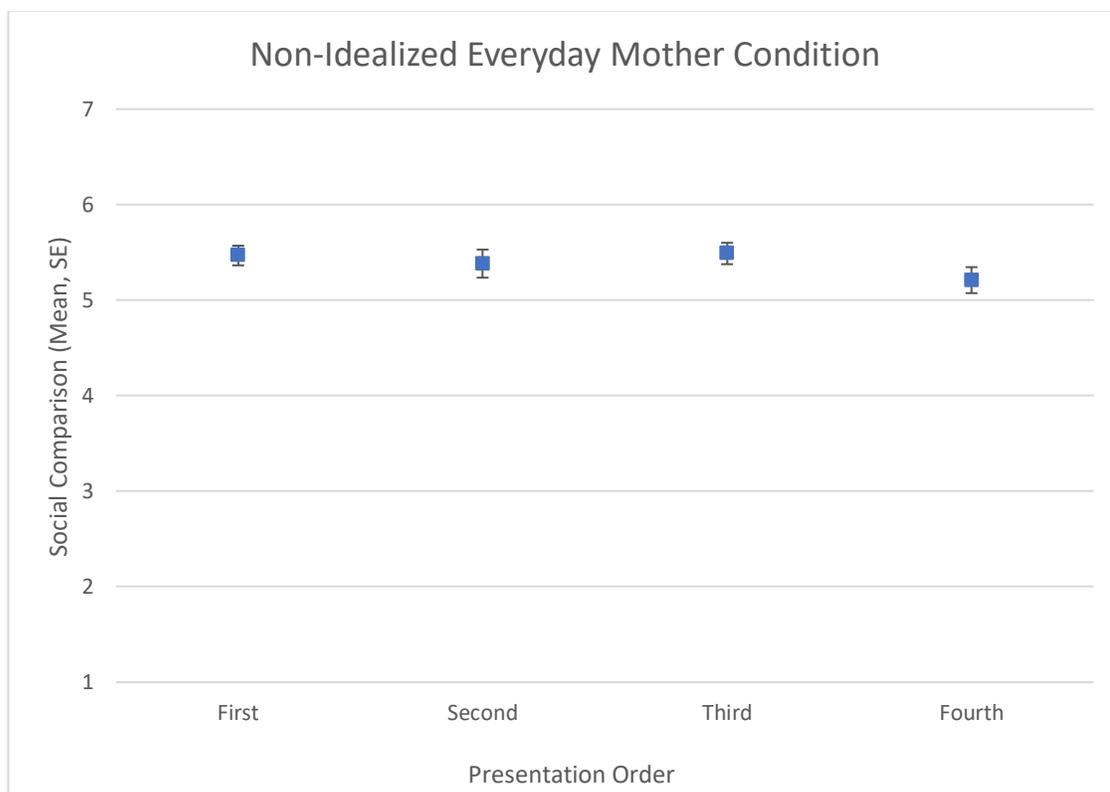
Mean, Standard Error, and Confidence Interval for Life Satisfaction Outcome across the Four Presentation Orders of the Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	5.095	0.156	4.784	5.406
Second	4.748	0.141	4.468	5.028
Third	5.003	0.128	5.751	5.255
Fourth	5.056	0.140	4.779	5.334



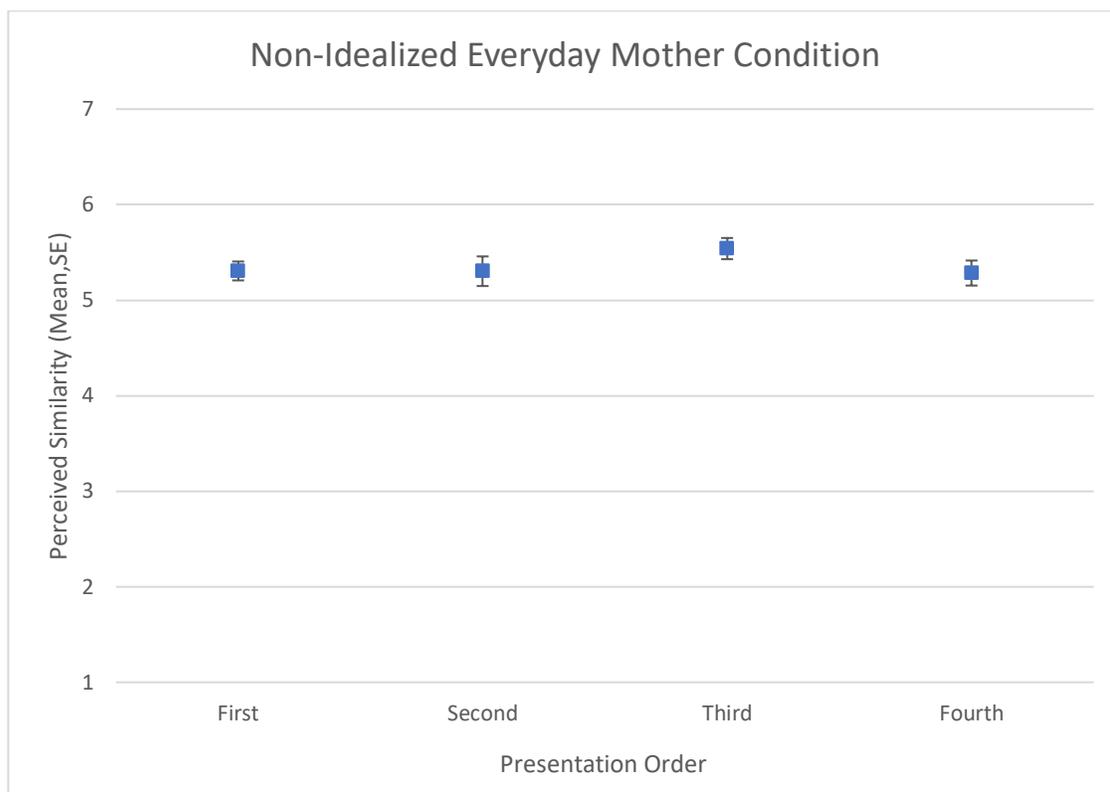
Mean, Standard Error, and Confidence Interval for Social Comparison Outcome across the Four Presentation Orders of the Non-Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	5.467	0.103	5.264	5.671
Second	5.382	0.147	5.089	5.675
Third	5.488	0.112	5.266	5.709
Fourth	5.209	0.136	4.940	5.478



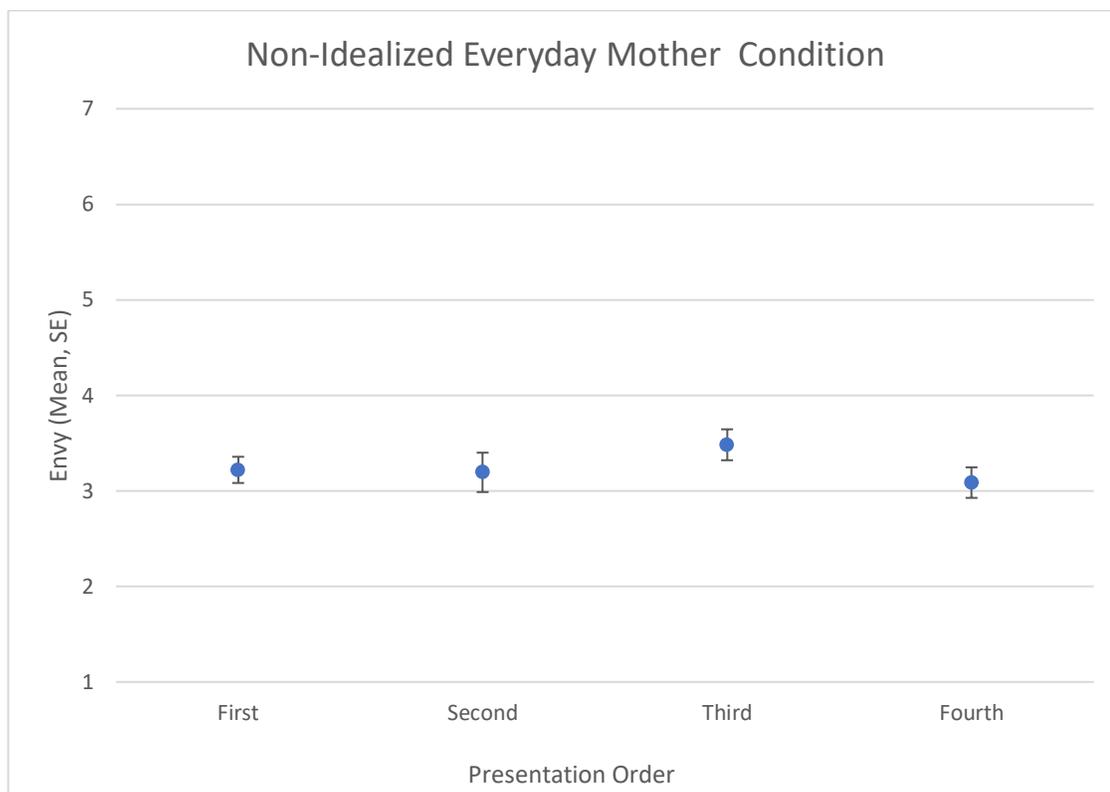
Mean, Standard Error, and Confidence Interval for Perceived Similarity Outcome across the Four Presentation Orders of the Non-Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	5.306	0.099	5.109	5.502
Second	5.303	0.155	4.994	5.612
Third	5.540	0.111	5.322	5.759
Fourth	5.284	0.131	5.024	5.543



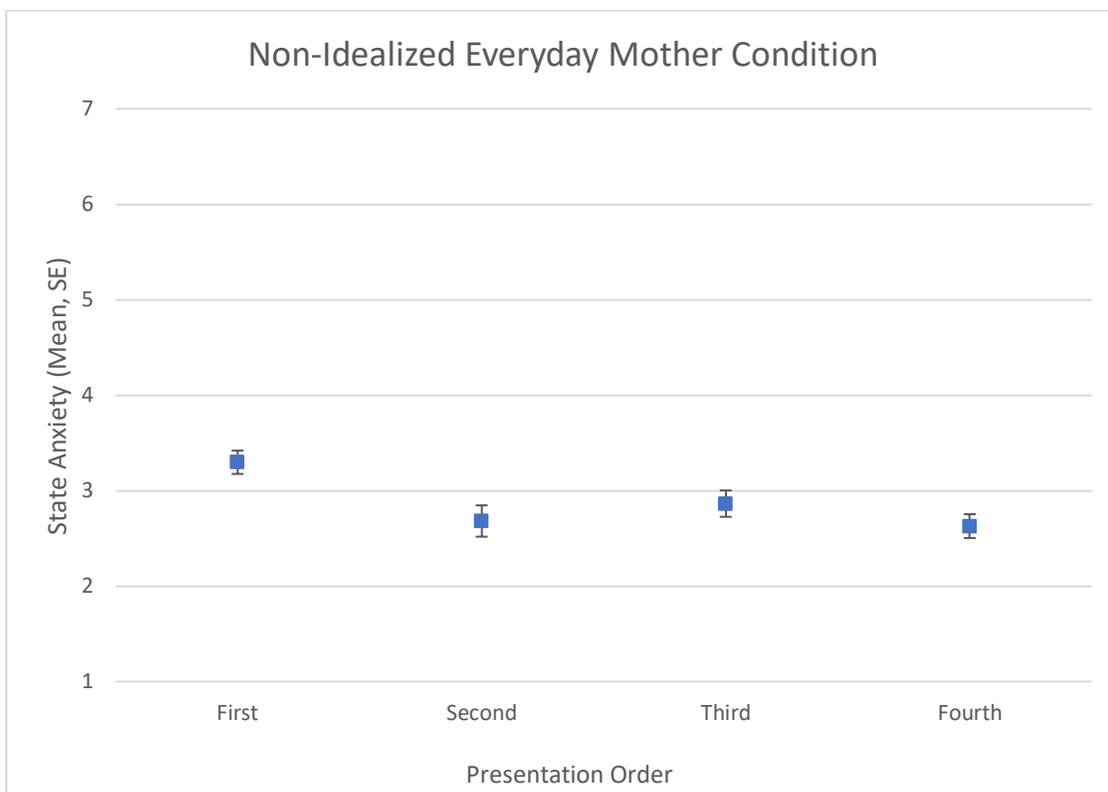
Mean, Standard Error, and Confidence Interval for Envy Outcome across the Four Presentation Orders of the Non-Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	3.220	0.137	2.949	3.490
Second	3.194	0.206	2.783	3.604
Third	3.483	0.162	3.163	3.803
Fourth	3.087	0.160	2.771	3.403



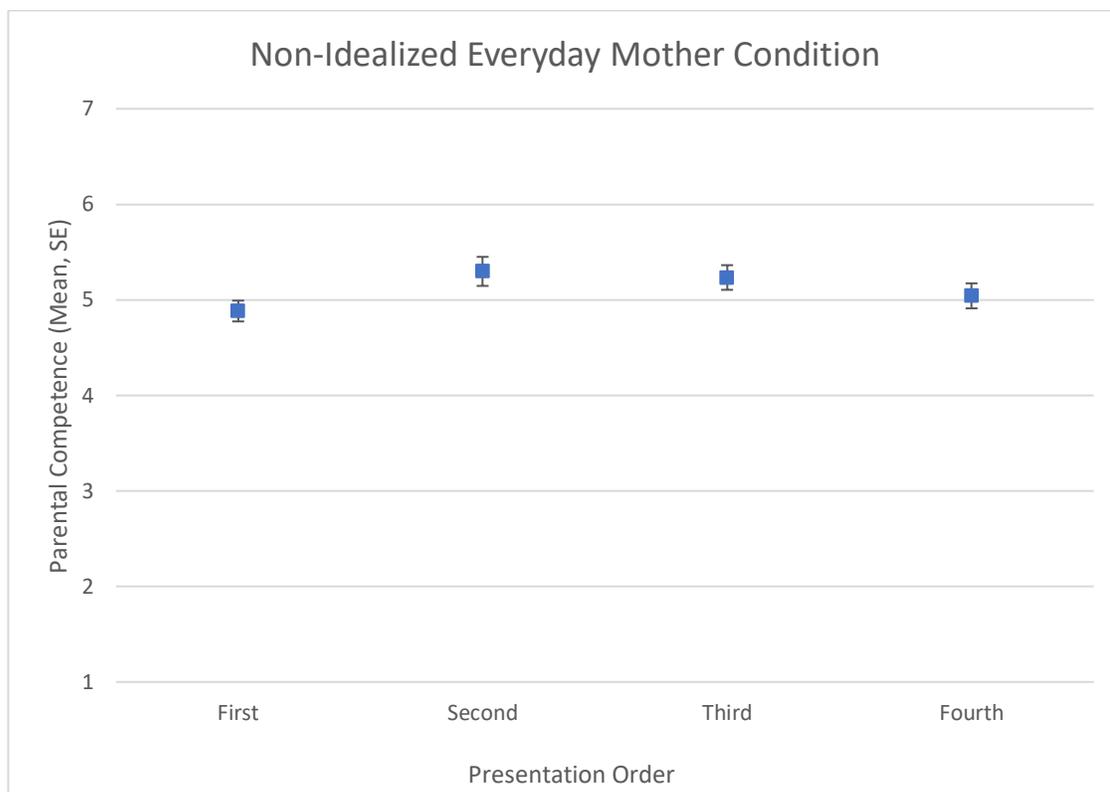
Mean, Standard Error, and Confidence Interval for State Anxiety Outcome across the Four Presentation Orders of the Non-Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	3.297	0.122	3.055	3.539
Second	2.682	0.164	2.356	3.008
Third	2.864	0.138	2.591	3.137
Fourth	2.628	0.125	2.380	2.876



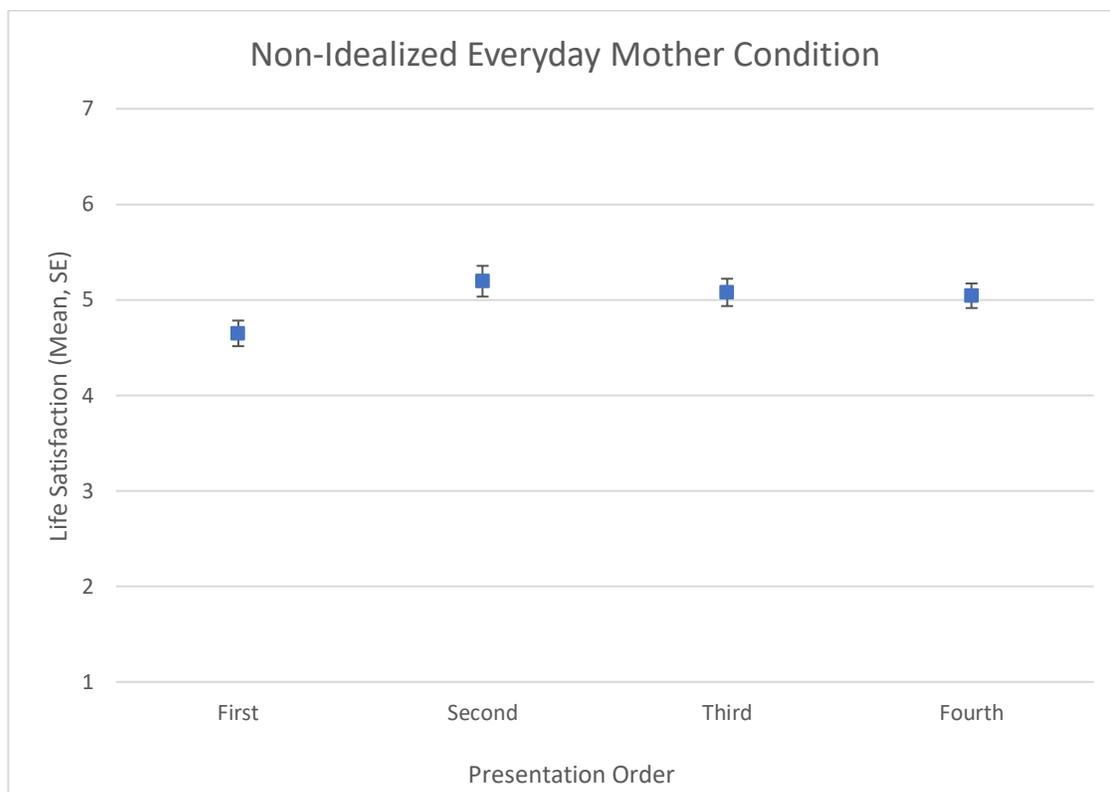
Mean, Standard Error, and Confidence Interval for Parental Competence Outcome across the Four Presentation Orders of the Non-Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	SE	Low CI	High CI
First	4.883	0.109	4.668	5.099
Second	5.298	0.152	4.996	5.601
Third	5.234	0.129	4.979	5.489
Fourth	5.042	0.131	4.783	5.302



Mean, Standard Error, and Confidence Interval for Life Satisfaction Outcome across the Four Presentation Orders of the Non-Idealized Everyday Mother Condition

Presentation Order	<i>M</i>	<i>SE</i>	Low CI	High CI
First	4.649	0.134	4.384	4.914
Second	5.195	0.161	4.875	5.515
Third	5.078	0.143	4.795	5.361
Fourth	5.043	0.1287	4.789	5.298



VITA

Ciera Kirkpatrick will join the College of Journalism and Mass Communication at the University of Nebraska-Lincoln as an assistant professor of advertising and public relations in August 2021. In this role, she will continue her research focused on how messaging in the media (e.g., advertising, news, social media content) affects individuals' health and how strategic communicators can effectively design messages to improve individuals' health outcomes through the promotion of healthy behaviors and the prevention of unhealthy behaviors. She uses a social scientific experimental approach that involves both online and laboratory experiments. With her experimental designs, Kirkpatrick investigates how message features (e.g., the content and structure of the message) interact with characteristics of the audience (e.g., their prior attitudes and risk perception) to influence the cognitive and emotional processing of messages and, in turn, outcomes like message perception, attitudes, and behavior change.

Kirkpatrick has worked on research funded by grants from the National Institutes of Health (NIH) and has presented her research at national and international conferences such as the Association for Education in Journalism and Mass Communication (AEJMC) conference, the International Public Relations Research Conference (IPRRC), and the International Communication Association (ICA) conference. Her research is published in *Health Communication*, *Communication Reports*, and *Review of General Psychology*.

Kirkpatrick taught as a Teaching Fellow at the Missouri School of Journalism and as a graduate student at Wichita State University's Elliott School of Communication. Her

teaching is informed by the professional experience she has in digital marketing. She worked as a copywriter and social media consultant at Ascential Marketing in Wichita, Kansas.

Prior to pursuing her Ph.D. at the Missouri School of Journalism, Kirkpatrick received her bachelor's degree and master's degree from Wichita State University, where her undergraduate education focused on integrated marketing.