

AN EXAMINATION OF THE INFLUENCE OF DISPARITY MESSAGES ON
ATTITUDES TOWARD AND SUPPORT FOR DENIGRATED GROUPS:
EXTENDING THEORIES OF STEREOTYPE AND STIGMA THROUGH FALSE
SUPERIOR PITY, APPRECIATION, AND HEDONIC ENJOYMENT

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AN EXAMINATION OF THE INFLUENCE OF DISPARITY MESSAGES ON
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This dissertation aimed to assess the suitability of false superior pity (FSP) as a mediator and realism, appreciation, and enjoyment as antecedents in predicting responses to denigrated groups associated with increased health or social risks related to COVID-19.

The current stigma-oriented extended parallel process model (S-EPPM) proposes that the appropriate balance of threat and efficacy translates to desired responses to groups. The first study examined the applicability of the S-EPPM, with the addition of FSP as a mediator, to the contexts of advanced age and obesity when communicating disparity information via a 2 attribution context (obesity and advanced age) by 2 disparity (presence or absence of a disparity message) experiment. The findings indicated disparity information exacerbated stigma, specifically toward people with obesity. FSP made a suitable mediator between threat appraisal and response within the S-EPPM. The second study examined whether the association between COVID-19 disease outcomes and

denigrated identities devalued disease mitigation efforts through secondary analysis of data gathered in Study 1. The disparity information did not devalue these efforts.

The BIAS map provided a suitable framework to assess information regarding the social outcomes of COVID-19. The third study examined the influence of tone and realism on perceptions of employed mothers via a 2 (light and serious tone) by 2 (more realistic and less realistic) factorial experiment predicting appreciation and hedonic enjoyment, and subsequently warmth, competence, pity, and support. The results indicated that light content predicted more hedonic enjoyment, serious content predicted more appreciation, and these mechanisms mediated the relationship between the content conditions and warmth. Warmth mediated the relationship between these constructs and policy support. FSP mediated the relationship between content type and avoidant behavior, supporting FSP as a response to ambivalent perceptions per the BIAS map framework.

Combined, these studies provided evidence that disparity information can both multiply stigma and prompt social support depending on additional factors. FSP mediated some of these effects, and appreciation and enjoyment of media made appropriate antecedents to stereotype content.

BIOGRAPHICAL SKETCH

Julie S. Cannon is a doctoral candidate in the Department of Communication at Cornell University. She received a Bachelor of Fine Arts from Florida State University in Motion Picture, Television, and Recording Arts (2007). Following her undergraduate training, she spent several years working in the entertainment industry in California. During that time, she became interested in understanding the downstream effects of the production decisions that took place in the industry. To pursue that line of inquiry, she completed a Master of Arts in Media, Health, and Society at Purdue University (2016) and a Master of Science in Communication at Cornell University (2020) before defending her dissertation in partial fulfillment of the Doctor of Philosophy in Communication from Cornell University in June 2022.

Her work emphasizes health communication and persuasion, often examining groups at particular risk of negative health outcomes. Further, she examines how affect, realism, and enjoyment might be calibrated to move attitudes toward denigrated groups and promote structural support.

Framing stigma and discrimination as public health issues, her future research program will examine the potentially destigmatizing influence of media representation of sexual behaviors and anatomical variances.

DEDICATION

This dissertation is dedicated to my parents, Susan and Scott Cannon, for their immense support.

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My mom, a.k.a. Nana, provides immense love and support always, especially during the process of becoming a parent. She showered my children with infinite attention and care. She showed endless patience through meltdowns and gave Julian the space he needed to process all the big changes that have come his way. Auggie and Julian delight in her company and her cooking. I am eternally grateful for her support, most recently throughout the COVID-19 pandemic. She upended everything to spend this time with us, and we could not be more thankful.

My dad, a.k.a Pappy, has worked to provide since he was ten years old, and still, at 68, he continues to impress with his ethic and skill. He provided an apartment in New York for my mom so that she could provide care for my kids during the pandemic and so I could have an extra layer of emotional support. Tangibly, he sacrificed that support for himself; he went without the meals she'd served for forty years and came home to just the pets each night for two years – for my kids and me. He ate almost exclusively beans and rice, so we did not. He claims he has not retired because he likes the gravy train too much; I tried to explain that one does not ordinarily kick the gravy train down the track with their own foot. Sometimes it seems more like both my parents run in front of the track at their own peril, laying it down so our train can stay on the rails. I will never be able to show them the gratitude they deserve.

My sister, Valerie, has done so much as my forever best friend. During this process, she offered childcare, sent goodies, and fielded countless calls during my moments of struggle. She has spent most of her vacation days with us every year. She drove us to FL because, after 18 months apart, we needed at least two months together in

2021. She chased my children on the beach while growing precious Violet in her belly. She wears her heart on her sleeve, and she loves immensely. I have loved her since the day she arrived. When I want to smile, I think of her.

I have always counted on my brother, Chris, to calm my secret storms. He can sense when the air isn't right, and although he never learned to disguise raging emotion in himself, he can see mine swirling beneath the surface of a deceptive stillness. I know that with minimal disclosure, he will offer heartfelt and pragmatic advice.

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Brandon listened to whirlwinds of half-processed ideas and complaints about cognitive load and provided snugs to the love bugs in the evenings while I wrote – also, thanks for the love bugs.

With Julian, my Lil Bub, everything is more. More exciting, bigger, louder, and sweeter. His imagination inspires me every day. Julian models excellent and generous friendship. Auggie injects humor into every situation he can. He especially adores making Julian laugh, and I adore that about him. He is kind-hearted and reminds us all of Pappy. I appreciate both of their patience with me as I learned to parent and spent so much time pursuing this goal. Their sweet snugs helped me power through.

Dr. Valliere Richard Auzenne served as my undergraduate honors advisor. This role serendipitously evolved into a deep, enduring friendship during a time we were both in need of compassion and connection. She was the first person from whom I sought advice when I realized that I might like to pursue a career in academia. She met my questions with resounding support and honest reflections on what transitioning from B. F. A. to Ph. D. looks and feels like. It is difficult to articulate how much Valliere means to me.

I can picture Dr. Hyunyi Cho smirking at me in a coffee shop, “You’re not like other graduate students....” It was difficult to tell if she meant it as a compliment, but continued opportunities to collaborate and concern for my success for which I am very grateful make me think it was.

As a mentor, Dr. Jeff Niederdeppe provided ample opportunities to extend my training and perspectives on trajectories for success. He also modeled kindness, compassion, and pragmatism that I hope to emulate as I begin to mentor students myself.

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Dr. Mike Shapiro challenged me to expand the way I conceptualize knowledge construction. It was thrilling to get to know how he approached the process himself. He also showed immense caring not just for me but for each of his advisees and mentees.

Dr. Andrea Stevenson Won helped me understand the process of building an early academic career. She demonstrated vast commitment to her student’s scholarly endeavors and an unsurprising ability to forge connections across fields of studies. She made time

and space to discuss my interests and trajectory, I knew that I could count on her for a genuine perspective.

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Dr. Sahara Byrne provided emotional support and intellectual guidance throughout my time at Cornell. I felt comfortable expressing the challenges I faced and was grateful that she responded with compassion and understanding. She could sense when I felt overburdened and would offer advice and encouragement. She engaged with my interests enthusiastically and offered clear guidance on moving those interests toward theory-oriented knowledge construction. I am fortunate to have had her as my advisor.

TABLE OF CONTENTS

Biographical Sketch	iii
Dedication.....	iv
Acknowledgments.....	v
Chapter 1: Introduction and Theoretical Framework.....	1
Stigma, Prejudice, and Discrimination as Public Health Issues	1
COVID-19 Exacerbated Challenges	2
Theoretical Framework Study 1 and Study 2	3
Pity, Fluidly Bound Groups, and the Stigma-Oriented EPPM	4
Theoretical Framework Study 3.....	7
Pity, Targets of Ambivalence, and Antecedents to the BIAS Map Framework	7
Appreciation, Enjoyment, and Persuasion	9
Approach to the Problem	10
Chapter 2: Study 1: Considering Pity as Complementary to the Stigma-Oriented Extended Parallel Process Model.....	13
The Stigma-Oriented EPPM	13
Plausibility and the EPPM Applied to Stigma.....	14
Defining False Superior Pity.....	16
Pity, Efficacy, and the EPPM	18
Dual Stigma as Threat Amplification	19
Brief Summary of Hypotheses and Research Question.....	20
Research Question One and Hypotheses	21

Method	24
Purpose of Study	24
Study Design.....	24
Participants.....	24
Procedure	30
Stimuli.....	31
Measures	32
Analysis and Results.....	36
Confirmatory Factor Analysis of Threat Appraisal Constructs	36
Descriptive Statistics of Measured Variables	37
Hypothesis Testing.....	41
Mediation Analyses	43
Pity as Mediator	51
Moderation Hypotheses	56
Discussion.....	69
Limitations and Future Directions	74
Conclusion	77
Chapter 3: Study 2: Examining the Transference of Disparity Information to Risk	
Assessment and Unintended Effects.....	78
Unintended Effects.....	79
Multiple Stigma	81
Adverse Effects of Disparity Information.....	82
Optimism Bias	83

Summary of Hypotheses	84
Method	85
Design	85
Participants.....	87
Stimuli.....	92
Risk Disparity	92
Multiple Contexts.....	93
Procedure	94
Measures	96
Analysis and Results	99
Descriptive Statistics of Variables Overall	99
Hypothesis Testing.....	102
Summary of Results	111
Discussion.....	112
Limitations and Future Directions	115
Conclusion	116
Chapter 4: Study 3: Examining Realism, Enjoyment, and Appreciation as Antecedent to Stereotype Content, Distancing, and Support of Working Mothers	117
The Treatment of Working Mothers During the COVID-19 Pandemic	118
Content for Coping With a Pandemic	120
Stereotypes and Prejudice Toward Working Mothers Through the Lens of Stereotype Content Model	121

Moving People Toward Pro-Sociality by Satisfying Eudaimonic	
Motivations	123
Eudaimonic	124
Hedonic Enjoyment and Pro-Sociality.....	125
Realism and Pro-Sociality of Amusing Content.....	126
Returning to the Discussion of Ambivalent Responses and Contributing an Ambivalent	
Mechanism: False Superior Pity	128
Summary of Hypotheses	130
Method	131
Design	131
Participants.....	131
Procedure	135
Stimuli.....	136
Manipulation Check.....	137
Instrument	138
Dependent Variables	139
Analysis and Results	141
Balance Check	142
Hypothesis Testing.....	147
Within Experiment Manipulation Check	160
Summary of Hypotheses and Results	169
Discussion	170
Limitations and Future Directions	174

Conclusion	175
Chapter 5: General Discussion.....	176
Study 1	177
Study 2	177
Study 3	178
Implications of Findings	179
False Superior Pity, Threat Appraisal, and Response.....	179
Disparity Information and Support for Targets of Ambivalence.....	181
Limitations	182
Future Directions	183
Conclusion	184
References.....	186
Appendix A: Instrument for Studies 1 and 2	232
Appendix B: Instrument for Study 3.....	244
Glossary	256

List of Tables

Table 1: Categorical Participant Characteristics.....	26
Table 2: Continuous Measures of Participant.....	30
Table 3: Descriptive Statistics of Constructs Under Study.....	38
Table 4: Descriptive Statistics of Constructs Under Study by Condition.....	40
Table 5: Indirect Effects of Condition on Pity Through Three Mediators	46
Table 6: Contrasts of Indirect Effects of Condition on Pity Through Three Mediators	47
Table 7: Indirect Effects of Condition on Social Attraction Through Three Mediators	48
Table 8: Contrasts of Indirect Effects of Condition on Pity Through Three Mediators	49
Table 9: Summary of Hypotheses and Results	68
Table 10: Categorical Participant Characteristics.....	88
Table 11: Continuous Measures of Participant Characteristics	92
Table 12: Descriptive Statistics of Measured Variables	100
Table 13: Descriptive Statistics of Variables by Condition.....	101
Table 14: Regression Using Plausibility of Becoming COVID-19 Patient as the Criterion	103
Table 15: Regression Results Using Perceived Severity of COVID-19 as the Criterion	106
Table 16: Estimated Marginal Means Severity of COVID-19 Infection Within Each Subset.....	107

Table 17: Regression Intention to Comply With COVID-19 Mitigation Protocols as Criterion.....	108
Table 18: Estimated Marginal Means of Intention to Comply With Protocols Within Each Subset.....	110
Table 19: Summary of Hypotheses by Analytic Set.....	111
Table 20: Summary of Hypotheses and Rationale.....	130
Table 21: Demographic Characteristics of Sample	132
Table 22: Continuous Measures of Participant Characteristics	134
Table 23: Descriptive Statistics of Measured Variables.....	143
Table 24: Outcome Descriptive Statistics by Condition.....	145
Table 25: Regression Results Using Appreciation for Media as the Criterion.....	148
Table 26: Regression Results Using Hedonic Enjoyment as the Criterion	149
Table 27: Regression Results Using Warmth as the Criterion and Appreciation as Predictor	154
Table 28: Regression Results Using Warmth as the Criterion and Enjoyment as Predictor	157
Table 29: Within Experiment Realism Manipulation Check: Regression Results Using Typicality, Plausibility, and Narrative Consistency as the Criteria	160
Table 30: Regression Results Using Policy Support as the Criteria.....	162
Table 31: Regression Results Using False Superior Pity as the Criterion.....	164
Table 32: Regression Results Using Warmth as the Criterion	168
Table 33: Summary of Hypotheses and Support	169

List of Figures

Figure 1: Confirmatory Factor Analysis of Items Measuring Outcome Variables.....	37
Figure 2: Interaction Between Attribution and Pity.....	58
Figure 3: Poly Interaction between Attribution and Pity	58
Figure 4: Interaction between Collective Efficacy and Condition on Social Attraction	60
Figure 5: Poly Interaction Between Collective Efficacy and Condition on Social Attraction	60
Figure 6: Interaction Between Severity and Plausibility on Social Attraction	62
Figure 7: Interaction Between Severity and Plausibility on Pity	63
Figure 8: Interaction Between Attribution and Sympathy on Social Attraction.....	65
Figure 9: Appreciation by Content Type	151
Figure 10: Hedonic Enjoyment by Content Type.....	151
Figure 11: Mediation Model of the Indirect Effect of Content-Type on Policy Support through Needs Met.....	153
Figure 12: Mediation Model of the Indirect Effect of Appreciation on Policy Support through Warmth	156
Figure 13: Mediation Model of the Indirect Effect of Hedonic Enjoyment on Policy Support through Warmth	159
Figure 14: Mediation Model of the Indirect Effect of Content-Type on Intention to Have Kids Through Pity.....	166

CHAPTER 1: INTRODUCTION AND THEORETICAL FRAMEWORK

Same storm, different boats. This adage became a popular way to express the different impacts the COVID-19 pandemic and the associated lockdowns, mortality rates, and resource allocations had on different groups of people (e.g., Joshi & Agarwal, 2022; Lofrano-Prado et al., 2021; Misca & Thornton, 2021; Van Osch & Beath, 2021). Some groups faced growing prejudice and discrimination during this period because of their need for larger boats or for newer technologies to be attached to aging vessels. This multiplication of existing stigma by disparity presents a public health issue and the opportunity to better understand the impact of communication on disparate outcomes and experiences.

Stigma, Prejudice, and Discrimination as Public Health Issues

Stigma, prejudice, and discrimination are public health issues (Beauchamp, 1976; Coggon & Tahzib, 2021; Niederdeppe et al., 2008; Zhu & Smith, 2021). The deleterious impact of these experiences on health has been documented across multiple contexts for many years (e.g., Araiza & Wellman, 2017; Asadi-Aliabadi et al., 2020; Brewis, 2014; Brown et al., 2016; Corrigan et al., 2004; Goldberg, 2017). For example, higher visible adiposity associated with obesity (i.e., visible fatness) garners lower quality healthcare, creates challenges to mental health, and limits upward mobility at work, which in turn limits access to health-related resources (Blodorn et al., 2016; Brewis, 2014; Brown et al., 2007; Dickins et al., 2016; Fahs & Swank, 2017; Goldberg, 2017; Himmelstein et al., 2018; Puhl et al., 2013). Ageism also presents similar challenges to healthcare, resource allocation, and approaches to policy that would benefit groups across the lifespan (see Burnes et al. (2019) for systematic review). Working mothers face a penalty that limits

upward mobility and access to resources (e.g., Benard & Correll, 2010; Dugan & Barnes-Farrell, 2020). The relationship between socioeconomic status and health has been established (e.g., Lago et al., 2018; Odle-Dusseau et al., 2018; Pinquart & Sörensen, 2006); thus, discriminatory pay and promotion practices extend to public health challenges facing these groups.

COVID-19 Exacerbated Challenges

Ageism, anti-fat bias, and the motherhood penalty increased during the COVID-19 pandemic. For example, people espoused compassionate ageism – a form of ageism that presents as caring and over-protection (Vervaecke & Meisner, 2021). In this case, over-protection extends to infantilization and denial of agency over activity due to increased vulnerability to severe COVID-19 outcomes. The increase in overt prejudice was demonstrated by online vitriol and dismissiveness of the pandemic risks due to the belief early on that advanced age was the only characteristic determinant of mortality risk (Barrett et al., 2021; Meisner, 2021).

Similarly, Pearl and Schulte (2021) described how the association between obesity and COVID-19 severity has exacerbated the emphasis on personal attribution of responsibility for adiposity and extended that to being at fault for overworking a taxed medical system. Also, similar to the overt forms of ageism expressed, there are increases in anti-fat rhetoric online associated with perceptions of the blame for COVID-19 (Monaghan, 2021).

Lastly, working mothers have experienced an increased level of motherhood penalty due to a lack of structural support as caregiving, household management, homeschooling, and emotional labor fell disproportionately on their shoulders (Bauer &

Ngondo, 2022; Blithe et al., 2022; Danzer et al., 2021; Smith, 2022). This experience resulted in decreased productivity compared with working fathers in the same households (Augustus, 2021), decreases in advancement (Firestone, 2021), and mental health challenges associated with these experiences (Aldossari & Chaudhry, 2021). Thus, each of these groups is representative of different outcomes of the COVID-19 pandemic and denigrated identities at once.

One of the avenues to overcome these challenges is a better understanding of the relationship between interpersonal level threat and structural level support for denigrated groups. In areas like race and sex, social justice scholars Meadows et al. (2021) attribute the marginal positive movement in structural support for these groups to a reciprocal shift in individual-level attitudes towards derogated groups. Smith (2014) similarly suggests that considering interpersonal dynamics in response to intergroup threats will move scholarly work in stigmatizing communication forward. Thus, the series of studies included in this dissertation examined the relationships between attitudes toward members of denigrated groups, social attraction, and support for beneficial policies. People with obesity, people of advanced age, and employed mothers were selected for the study based on documented structural barriers to health described above and the disparate influence of the COVID-19 pandemic on their resources and well-being.

Theoretical Framework Study 1 and Study 2

The theoretical framework for Study 1 and Study 2 included three theoretical constructs: pity as a mediating emotion between threat appraisal and decreased support for denigrated groups, fluidly bound groups, and stigma as an extension of the EPPM.

Pity, Fluidly Bound Groups, and the Stigma-Oriented EPPM

The original design of the extended parallel process model (EPPM) was to explain when and how fear appeals succeed or fail (Witte, 1992). This approach posits that the appropriate balance of danger appraisal with perceived self and response efficacy should move people toward either fear control (counter to message intention) or danger control (consistent with risk avoidance) behavioral intentions. These constructs have been examined extensively in myriad health and risk contexts (Barnett et al., 2014; Carey et al., 2013; Goei et al., 2010; Quick et al., 2018; Witte, 1992, Witte & Allen, 2000) and extended to the stigma domain by Smith et al. (2007).

The first two studies of this dissertation built on the stigma extension of the EPPM. In the stigma-oriented EPPM (S-EPPM), stigma represents a fear response, and support represents the desired outcome. In their application of the S-EPPM, Smith et al. (2007) found support for the proposition that collective efficacy would moderate threat appraisal and result in hypothetical group support. They operationalized threat appraisal by combining measures of the two dimensions of susceptibility and severity. This dissertation operationalized severity similarly to Smith et al. (2007) - in terms of impact on self-trajectory – for example, whether having HIV would be a death sentence or ruin their life. However, susceptibility was operationalized somewhat differently due to the fluid bounds of the groups under study.

As a target characteristic, group fluidity means almost anyone could become a group member. When a person perceives the possibility of exchanging their status for a lesser one, that perception threatens existing values and beliefs of moral superiority due to the supposition that the person is responsible for their status (Noureddine & Metzger,

2014). The plausibility of shifting into a new group identity, like thinness to obesity, is threatening because of the desire to envision ourselves on a positive trajectory, not at a loss for resources, health, or values (Peetz & Wilson, 2008). Thus, in stigmatized contexts, the plausibility of identity shift, allowed by group fluidity, may manifest alongside severity as a component of threat appraisal to positive self-trajectory.

Building on the S-EPPM, I proposed false superior pity as a mediating emotion between threat appraisal and decreased support for denigrated groups. This proposal comes in response to extensions of the original EPPM to include emotional mediators aside from fear (e.g., Lewis et al., 2013; So, 2013; So et al., 2016) and the suitability of this emotion for the evaluation of denigrated groups.

Pity Defined

Gerdes' (2011) semantic history of pity describes that in Greek plays and Renaissance art, pity was aspirational. However, in the 1800s, Nietzsche's negative connotation of pity as indicative of weakness and dependence shifted the valence substantially. Modern colloquialisms support the negative connotations associated with the word pity; however, characterizing its' expression remains an ambivalent process.

Florian et al. (1999) established that expressions of pity occur along a prosocial to egocentric spectrum: compassionate caring anchors the positive end, while false superiority anchors the negative. Passive identification is associated with impotence in action on behalf of the group, but not negativity toward that group. When people feel this type of pity, they are likely to offer something like well-wishes but not concrete assistance to the other party. Compassionate, caring pity expression is similar to that which Ben-Ze'ev (1993) described as a sympathetic, positive pity in his exploration of the

nuances of envy and pity. This type of pity was associated with a desire to help the other party.

Conversely, the false superiority expression of pity is associated with relief not being the pitied target, as well as feelings of power. Given that helping the other party would sacrifice that sense of superiority and power, this type of pity does not benefit the pitied party. Ben-Ze'ev (1993) refers to these feelings as a response to a fear of becoming the other. Behaviors in this pity expression have to do with creating distance, which means that support and social attraction should be lessened when people feel false superior pity.

Returning to the S-EPPM, threat appraisal should lead to an affective response that promotes a desirable or undesirable outcome. The first study of this dissertation examines the possibility that false superior pity serves as the mediator between threat appraisal and response, similar to the role of fear in the EPPM.

Although many emotions may arguably occupy this mediating position, false superior pity was selected due to its prevalence in the intergroup dynamics literature. Models including the attribution model of prejudice (Weiner, 1988) and the behaviors and intergroup affect and stereotypes map (BIAS map) (Cuddy et al., 2007) both suggest people respond to denigrated groups with pity. These theories also argue that pity leads to positive behaviors and attitudes under certain circumstances. However, some of the findings related to this emotion do not support the positive dynamic. Thus a more nuanced measure of pity may help explain which kinds of attitudes and behaviors are associated with the darker side of the emotion. The primary purpose of Study 1 is to examine whether false superior pity functions similarly in the S-EPPM applied to

denigrated group perceptions compared with the way that fear has functioned in the EPPM in acute health and risk contexts.

Disparity Messages and Multiple Stigma

The S-EPPM describes threat appraisal as a combination of severity and susceptibility. The severity component refers to how negatively having a stigmatized health issue may impact someone's life. Logically, specifying that certain groups face more severe outcomes from infectious disease, in this case, COVID-19 may impart an association between that group and that undesirable health outcome. The experience of the LGBTQIA community and people with substance use issues during the AIDS epidemic provides another example of this phenomenon. While COVID-19 infection was widespread, the most negative impacts overburdened both people of advanced age and people with obesity - in addition to other groups early in the pandemic. Limiting the spread of a respiratory illness like this means relying on others at less risk of severe outcomes. While Study 1 assessed the potential of the disparity information to amplify severity and multiple stigmas, Study 2 examined how this messaging influenced people's responses to COVID-19 patients who fall outside of those groups and their intentions to comply with mitigation protocols.

Theoretical Framework Study 3

Study 3 was based on a theoretical framework that included pity, targets of ambivalence (groups not definitively categorized in established stereotypes), and antecedents to the BIAS map framework.

Pity, Targets of Ambivalence, and Antecedents to the BIAS Map Framework

Pity also occupies a prominent position in the stereotype content model and the BIAS map framework (Cuddy et al., 2007). Study 3 of this dissertation examines what Fiske (2010) describes as the "off-diagonal groups," groups that are not known through established stereotypes and prejudice research to occupy a uniformly good or bad place. Livneh (1988) referred to groups at this intersection as "objects of ambivalence" (p.37); however, given that their treatment is at the whim of this ambivalence, I would call them *targets* of ambivalence. Fiske (2010) describes the combination of pity intending to harm as scorn and pity without that intention as sympathy – false superior pity might occupy a space between these two. Given this prospect, the predictive value of this pity expression in response to the stereotype content of denigrated group was examined for valence within this framework.

The stereotype content model and BIAS map framework suggest that perceptions of warmth and competence vary in response to denigrated groups, and the expression (whether they represent positive or negative evaluations) varies in response to whether the group is viewed as cooperative (positive) or competitive (negative). The relationships have been tested in various stereotype groups and usually through the manipulation of stereotype content (e.g., Fiske, 2018; Fiske et al., 1999; Fujiwara et al., 2022; Jain, 2022; Kotzur et al., 2020). Perceptions of working mothers represent the versatile, ambivalent space. If they are undeniably competent, they are considered cold; if warm, they are incompetent (Benard & Correll, 2010; Cuddy et al., 2004, 2008; Odenweller et al., 2020). Lee and Fiske (2006) suggested that this ambivalence presents an opportunity to examine which details about the group or the person evaluating that group predicts the expression

of the stereotype content. This dissertation considered further how attributes of the message that communicates the group's struggles might impact stereotype content and expression of false superior pity.

Appreciation, Enjoyment, and Persuasion

The two-factor eudaimonic hedonic model (Oliver & Bartsch, 2010; Oliver & Raney, 2011) argues that mediated experiences, especially narratives, fulfill needs for both appreciation and pleasure. Further research in this domain suggests that engagement with inspiring or eudaimonic content can lead to feelings of connectedness and pro-sociality (Freeman et al., 2009; Haidt, 2003; Janicke-Bowles et al., 2019; Khoo & Ash, 2021; Oliver et al., 2015; Pohling & Diessner, 2016; Shulman et al., 2021). Hedonic enjoyment has also been linked to prosocial outcomes (De Ridder et al., 2022; Feldman & Borum Chattoo, 2019), but with less consistency (McGraw et al., 2015; Nabi et al., 2007; Xiao et al., 2018).

It was anticipated that light content would promote a predominantly hedonic enjoyment, and serious content would be associated with a higher appreciation of the content. In turn, it was also expected that each of these would impact warmth perceptions by extending positive feelings to the other through appreciation or by finding the target funny and likable through hedonic enjoyment. The literature suggests that appreciation would move through warmth to support, whereas the mediating potential of warmth between hedonic enjoyment and policy support was approached as an exploration in Study 3.

Realism also sometimes enhances the persuasive qualities of content (e.g., Cho et al., 2013, 2014; Fludernik, 1994; van der Velde et al., 1992) and relies on perceptions of

congruency with expectation. Since amusement relies to some degree on violation of expectation (Kant & Norman, 2019; McGraw & Warren, 2010), the potential for realism and light content to attenuate each other's influence on support for targets of ambivalent, working mothers, in this case, was also explored.

Approach to the Problem

This work examined responses to information regarding disparities in the impact of COVID-19 through two lenses– the S-EPPM (Smith et al., 2007; Witte, 1992; Witte & Allen, 2000) and the BIAS map framework (Cuddy et al., 2007). The work aimed to assess the suitability of each approach to explaining responses to denigrated groups who experienced disparate outcomes related to the COVID-19 pandemic and to extend each framework.

Although the EPPM has been applied extensively to the study of fear appeals in many domains (e.g., Barnett et al., 2014; Carey et al., 2013; Goei et al., 2010; Quick et al., 2018; Witte, 1992), more recent work examines the possibility of mediators and affective pathways aside from fear (e.g., Lewis et al., 2013; So, 2013; So et al., 2016). Annoyance, pride, humor, and anxiety have all been supported by the EPPM model. The model posits that danger appraisals, a combination of perceptions of severity, susceptibility, and efficacy, result in affective response to the risk, leading to either avoiding danger or avoiding a negative affective response (i.e., fear). When Smith et al. (2007) reframed the EPPM for application to stigma, they characterized fear as a response to the stigmatized condition. This dissertation e posited that false superior pity was an appropriate mechanism for this mediating position between appraisal and attitudinal and intentional responses to denigrated groups.

The selection of pity as the intermediary affective response for this extension of the EPPM was based on its inclusion in several other frameworks designed to predict responses to denigrated groups, including attribution theory (Weiner, 2018), socio-functional perspectives on prejudice (Cottrell & Neuberg, 2005), and the stereotype content model (Fiske, 2018). Further, the choice to specify false superior pity, an expression characterized by downward comparison and inaction (Florian et al., 1999), was intended to illuminate a possible explanation for inconsistencies in the performance of pity as a mediator in these models.

The first study in the series examined the S-EPPM, especially pity, as a mediator using data derived from a 2 (Disparity message/Heightened Threat: present or not present) by 2 (Attribution level by context: People with obesity or people of advanced age) experiment. The second study examined how the experimental manipulations of Study 1 and the associated intergroup assessment influenced responses to people with COVID-19 who are neither of advanced age or with obesity and intentions to comply with COVID-19 mitigation protocol.

While the S-EPPM may be an ideal framework for examining multiple stigma associated with a direct cross-over between identity and health threats, the stereotype content model is likely more appropriate for contexts where the disparate impact has a weaker association with the immediate health threat. To better understand the influence of disparity information that emphasizes the social risks of COVID-19, relationships between constructs related to prosocial media and stereotype content associated with targets of ambivalence were considered in Study 3.

At the behest of leading scholars in the domain of stereotype content (Fiske, 2010) and the potentially prosocial media constructs of appreciation and enjoyment (Oliver et al., 2021) to examine potential mediators and moderators of prosocial responses to ambivalent targets, warmth and competence are considered as possible mediators between appreciation, enjoyment, and support for beneficial policy. Understanding whether these communication constructs function as an antecedent to responses to targets of ambivalence could provide advocates of these groups direction on how to communicate disparate experiences without unexpectedly shifting to negative expressions of stereotype content. Realism, in this case, is suggested as a potentially moderating influence on the relationship between content type and response to targets of ambivalence. These inquiries were examined through a 2 (Content-type: Light or serious) by 2 (Realism: Staged or Informal Imagery) experimental design limited to working people who do not identify as parents.

The proposed extensions of pity as a mediator in the S-EPPM and appreciation and enjoyment as antecedent are important to improving our understanding of the mechanisms that amplify stigma during a crisis and the potential communication constructs through which biased responses may be attenuated.

The next chapters describe the studies designed to test the major hypotheses proposed throughout this chapter and explore the posed research questions. Further, they include the more substantive portion of the literature review, operationalization of constructs, and discussion of pertinent findings.

Lastly, an overall discussion of the contributions made by the studies in sum, as well as limitations and future directions for research, close the dissertation.

CHAPTER 2

STUDY 1: CONSIDERING PITY AS COMPLEMENTARY TO THE STIGMA-ORIENTED EXTENDED PARALLEL PROCESS MODEL

Anti-smoking messaging can stigmatize smokers, as can suicide prevention messages for those with mental health disorders and sexually transmitted disease testing campaigns for individuals who have tested positive. Indeed, public health messaging at times faces the paradox that, in encouraging people not to engage in certain behaviors that would cast them as members of a given group, the messages at the same time stigmatize members of that group and, in doing so, diminish people's motivation to help the group. For example, messages that seek to discourage a behavior such as eating unhealthy food can have the effect of stigmatizing obese people and limiting others' willingness to help them (e.g., Karsay & Schmuck, 2019; Pearl et al., 2015). As part of this diminishment, people often draw social comparisons. One emotion that can capture that component of the intergroup dynamic is pity. False superior pity (Florian et al., 1999) especially emphasizes a sense of power derived from the perceived inferiority of another group or person.

The present study considered whether *false superior pity* should occupy the affective pathway between target perception and response within the stigma-oriented extended parallel process model (S-EPPM) applied to fluid group contexts.

The Stigma-Oriented EPPM

Smith et al. (2007) expanded the extended parallel process model by integrating the concepts of stigma to represent fear and collective efficacy to predict social support behavior. They argued that collective efficacy, a community's belief they can resolve an

issue, predicts supportive attitudes and behaviors. They found some support for this portion of the model in the context of helping orphaned children with AIDS. The current study built on this extension by positing that false superior pity would operate as an alternative to fear, mediating the pathway between threat appraisal and support for groups. Smith et al. (2007) conceptualize threat in terms of how having AIDS might influence someone's future. This comparison of the current self to a self that has joined a denigrated group by virtue of disease status parallels the possibility that people are making social comparisons to the other group as part of the appraisal process. That comparison could be captured by false superior pity. Arguments for adapting the S-EPPM with false superior pity as a mediator between threat appraisal and support outcomes follow this section, particularly concerning groups that are associated with but not defined by susceptibility to disease.

Plausibility and the EPPM Applied to Stigma

The basic premise of the EPPM is that fear appeals only function as desired with the appropriate balance of threat (i.e., susceptibility and severity) and efficacy conveyed (Witte, 1992). This approach has been examined in a myriad of risk contexts, predominantly finding support (e.g., Bigsby & Albarracín, 2022; Cho & Salmon, 2006; Maloney et al., 2011; Witte & Allen, 2000). In 2007, Smith et al. (2007) considered the possibility for this model to be extended to stigma as a social risk and tested the concept using data collected as part of a large survey in Namibia. They divided respondents based on the level of threat they reported in response to HIV. They measured willingness to help in terms of community members' willingness to adopt AIDS orphans and assessed perceived threat concerning the possibility of contracting HIV and how that would

influence their lives. Susceptibility referred to the likelihood of contracting HIV and severity referred to how that would impact the participants' futures, these items formed an additive threat appraisal composite. They assessed group stigma based on perceptions of norms of distancing from people with HIV and personal stigma by whether they would hide a family member's positive status. They also measured collective efficacy – the ability of the community to mobilize resources and help those with HIV and AIDS, as well as self-efficacy to help a person themselves despite group stigma. They found collective efficacy among people not feeling threatened by HIV was important to responses to people living with HIV or AIDS. The present study considers a different approach to operationalizing threat appraisal to examine how people respond when a group identity, not a specific health risk – would be a threat to their future self. Thus, susceptibility is operationalized as the plausibility of identity shift into a denigrated group, in this case, people with obesity or people of advanced age.

The sociofunctional perspective frames the negative response to certain threats as ego-protective. Essentially, the idea of a denigrated group becoming one's ingroup threatens their positive self-trajectory (Nelson, 2005). Snyder and Miene (1994) found that an ego-protective message regarding the elderly reduced negative attitudes among women, but the opposite impact occurred among men in their study. Interventions based on cognitive threats had null effects. Martens et al. (2004) examined ageism and found that a mortality prime instigated more negative responses among people who rated themselves similar to older people. In the context of weight gain, Fahs and Swank (2017) found that women were repulsed and terrified by the thought of becoming fat, and these feelings were associated with negative attitudes toward these groups. This study similarly

examined if being confronted by images of people with obesity or advanced age prompts a negative attitude but through the operationalization of susceptibility as the plausibility of an identity shift. This study also explored how the plausibility of identity shift potentially interacts with threat severity level and collective efficacy in predicting social attraction toward these groups and support for a policy that would benefit them.

Defining False Superior Pity

Florian et al. (1999) established that expressions of pity occur on an egocentric to prosocial continuum: false superiority anchors one end while compassionate caring anchors the other. Meanings, emotions, thoughts, wishes, and behaviors constitute these high-order factors of pity (Florian et al., 1999). Florian et al. (1999) approached the construct phenomenologically and then translated those findings into a questionnaire.

Passive identification expression sits at the center of the pity continuum and represents an inactive form of pity expression. That expression is likely captured by work in the stereotype content model (Cuddy et al., 2008) which predicts passive facilitation in response to pity when perceptions of competence are markedly lower than those of warmth.

The compassionate, caring expression of pity is associated with sympathy-oriented feelings. Attribution theorists, e.g., Weiner et al. (1982, 1988), likely interpreted pity optimistically – that it benefits parties that are considered not responsible or in control of their status. However, the inconsistencies in the role of pity in the attribution literature suggest that study participants may have responded to direct single-item pity assessments while making the meaning of pity differently. Much of the attribution research that draws upon Corrigan et al. (2003) and Corrigan et al. (2004) parallels this

interpretation of pity. These feelings are related to caring wishes, support-rallying, consoling, and preventive behaviors. Using a single-item measure, Lantos et al. (2020) reported that pity predicted intentions to act collectively in favor of economically disadvantaged groups. However, this finding did not apply if the group was also politicized (e.g., homosexual people). Understanding the subtle shades of how participants express pity could better explain support for denigrated groups.

In contrast, the false superiority expression of pity is associated with emotional discomfort, superiority feelings, and vulnerability feelings. Repulsion and disgust are common responses to this discomfort. This form of pity is similar to responses to threats to health and values (Cottrell & Neuberg, 2005). Superiority feelings are also characterized as feelings of power. These feelings of power have led to the status quo reinforcing style of help Corrigan (2017) references as the darker side of pity (e.g., Araten-Bergman & Werner, 2017; Corrigan et al., 2004; Radke et al., 2018; Shnabel, 2015). These power dynamics have been confirmed in research on recipient responses to helping.

High-status groups in stable hierarchies want to maintain their position by exclusively offering or forcing dependency-oriented help on the lower-status group(s) (Nadler, 2002). The hierarchy destabilizes if the lower status group demands equity and autonomy-oriented types of assistance. When these demands are made, higher-status groups often interpret the lower-status group as ungrateful. Sandstrom et al. (2019) found that although pity may motivate giving, consistent with Lantos et al. (2020), pity also felt bad to the recipients and reduced the enjoyment associated with the gift. Behaviors in false superior pity expression have to do with creating distance, which means that support

for helping or beneficial policy will be lower, as will social attraction. Higher individual attribution will predict higher false superior pity, which in turn will predict negative responses to denigrated groups.

Further, this form of pity is oriented with a desire for control which suggests it may be influenced by collective efficacy to help outgroups since efficacy perceptions describe perceived ability to attain the desired result. So, collective efficacy may moderate this pity expression in response to denigrated targets.

Pity, Efficacy, and the EPPM

Lewis et al. (2013) argued for the extension of the EPPM into emotional appeals beyond fear. Their work demonstrated that across three different emotions (annoyance, pride, and humor), EPPM constructs predicted responses to risk messages. So (2013) also found support for including anxiety as an emotional response to risk. Smith et al. (2007) suggested that other emotions may also have utility within the general framework when examining stigma. Therefore, there is space for the emotional expansion of the stigma-oriented version of the EPPM. The decision to include *pity* as a potential emotion in this context came from its presence across multiple theories of prejudice.

The stereotype content model argues that groups perceived as warm but incompetent will be met with pity (Cuddy et al., 2007). People with obesity (Vartanian et al., 2013) and people of advanced age (Cuddy et al., 2005; Fiske et al., 1999) fall into this category. Further, attribution theories of stigma argue that pity evidences a positive response to a target. However, updates on that approach (Corrigan, 2017) suggest it may limit help to that which promotes maintenance of the status quo (e.g., Fominaya et al., 2016). This negative outcome of pity is consistent with predictions based on a

dimensional approach to pity expression, specifically *false superior pity* (Florian et al., 1999).

The combination of the presence of pity in extant theories of group dynamics and the recommendation that additional affective pathways be tested in the EPPM supported the examination of false superior pity as a mediator in the S-EPPM.

Dual Stigma as Threat Amplification

Multiple stigma describes situations or identities where a person experiences prejudice and discrimination in response to two or more characteristics. For example, people who identify as homosexual and intravenous drug users experience multiple stigmas related to HIV (e.g., Wei et al., 2016). Further, race and ethnicity sometimes compounded these experiences (e.g., Capitanio & Herek, 1999; Crandall, 1991). The COVID-19 pandemic has been associated with increased anti-Asian sentiment amplifying racism and discrimination (e.g., Cho et al., 2021; Tsai et al., 2020). Lu et al. (2021) examined the influence of providing a vignette that either increased salience of COVID-19 or not on responses to roommate ads manipulated to imply different ethnicities. They found that the salience of COVID-19 increased prejudicial response indicated by a lack of desire to room with both Asian and Latine targets. The present study similarly examined whether information about the disparity in COVID-19 severity among both people with obesity and people of advanced age would amplify prejudice, measured through threat severity, pity, social attraction, and policy support.

Similar to people of Asian descent, people of advanced age and people who are obese have faced intensifying discrimination since the onset of the COVID-19 pandemic (Ayalon et al., 2021; Blundell et al., 2020; Cava et al., 2021; Flint, 2020; Zhang & Liu,

2021). However, body size and adiposity are fluid traits, and age has a semi-fluid boundary (i.e., one can get older, not younger). Therefore, there may be differences in how threat perceptions are processed when fluidly bounded groups are the target.

Based on Lu et al.'s (2021) findings that COVID-19 salience increased anti-Asian discrimination and the relationships espoused by the S-EPPM, the inclusion of a COVID-19 disparity text should amplify negative responses and dampen positive responses to targets with obesity and have the inverse impact on targets of advanced age.

Brief Summary Hypotheses and Research Question

The study described in the following section endeavored to determine how the plausibility of identity shift, the severity of threat to self-trajectory, and false superior pity explain the relationships between denigrated group appraisal and supportive outcomes. The S-EPPM provides the dominant framework for the particular paths tested. Plausibility of identity shift moves the operationalization of susceptibility from an imminent risk or disease to identification with a denigrated group. This conceptualization of threat appraisal differs from the S-EPPM proposed by Smith et al. (2007). The threat was oriented toward HIV infection, not a related group identity in that work. Moreover, the EPPM (Witte, 1992) predominantly examined fear responses in risk messaging, wherein fear prompts message rejection, and danger appraisal prompts message-consistent action. Here, false superior pity was examined as the mediating emotion in the pathway from threat appraisal to response to fluidly bounded denigrated groups.

Additionally, theories of stereotype and prejudice support the selection of pity over other possible emotions for testing along the appraisal pathway. Pity has been acknowledged as ambivalent and complicated (Boleyn–Fitzgerald, 2003; Carr, 1999; P.

Corrigan, 20170427; Florian et al., 1999; Fominaya et al., 2016a; Gerdes, 2011; Hoggett, 2006; Weiner et al., 1982), but many empirical tests of the role of pity in stereotype, prejudice, and stigma relegate pity to a single-item or a small group of emotions which may conflict (i.e., compassion, empathy, sympathy) (Florian et al., 1999; Gerdes, 2011). Still, both ambiguous outcomes related to pity expression and deeper examination of the emotion suggest a more nuanced approach to the emotion was needed. This work examined whether false superior pity, specified by Florian et al. (1999) as a particularly abhorrent pity expression, would explain the influence of threat appraisals, namely plausibility of identity shift and severity of the threat to self-trajectory, on pro-social responses to targets.

Research Question One and Hypotheses

Research Question One asked: How do these threat-related constructs of the severity of the threat to self-trajectory, plausibility of identity shift, and attribution of responsibility explain responses to denigrated targets relative to the EPPM and attribution theory propositions and pity?

The first hypothesis considered whether the attribution of responsibility, a construct emphasized within attribution and stigma communication literature represented a dimension of stigma threat appraisal alongside concepts drawn from the S-EPPM.

Hypothesis 1: The broader construct of threat appraisal is represented by finer dimensions, specifically attribution of responsibility, the plausibility of identity shift, and severity of the threat to self-trajectory.

The EPPM was designed to assess the conditions under which fear appeals effectively promote positive as opposed to avoidant behavioral responses to risk and

threat. In this study, pity was selected to occupy that space following its presence across multiple frameworks as a possible outcome of threat appraisal. However, pity is acknowledged as problematic partly due to the possibility that people describe different expressions under the same term (Florian et al., 1999). So, this study used an expanded set of items to measure false superior pity, which should complement severity as a threat to positive self-trajectory – the desire to be better.

Hypothesis 2a/b/c: False superior pity will mediate the relationship between the three threat perceptions and support for a policy that would benefit denigrated groups.

Hypothesis 3: False superior pity will mediate the relationship between condition and policy support.

According to attribution error (e.g., Corrigan et al., 2003; Cozzarelli et al., 2001; Niederdeppe et al., 2011), attribution of responsibility should amplify negative responses to denigrated targets.

Hypothesis 4(a/b): Attribution will moderate the influence of conditions on pity(a) and social attraction (b).

The EPPM and health belief models posit feelings of efficacy should amplify positive responses to risk (Bigsby & Albarracín, 2022; Cho & Salmon, 2007), and Smith et al. (2007) extend this notion to responses to denigrated groups.

Hypothesis 4(c/d): Collective efficacy will moderate the influence of conditions on pity(c) and social attraction(d).

The next hypothesis took a closer look at the relationship between threat severity and identity shift plausibility. Grounds for this hypothesis came from differential treatment of threat appraisal dimensions in the literature. Sometimes they have been

treated as a combined construct, sometimes additive, and other times multiplicative (El-Toukhy, 2015; Walpole & Wilson, 2021). So, although other hypotheses have examined their main effects, this hypothesis considered the possibility that these appraisal constructs have a moderating relationship. The proposed dynamics below were based on the need for a certain level of threat appraisal required to motivate a response (Cho & Witte, 2005; Witte & Allen, 2000).

Hypothesis 5 a/b/c: The severity of the threat to self-trajectory will moderate the influence of plausibility of identity shift, such that: (a) if both severity and plausibility are low, then social attraction will be higher than when both are high; (b) if both severity and plausibility are low, then pity will be lower than when both are high; (c) if both severity and plausibility are low, then policy support will be lower than when both are high.

Similarly, to address whether the emotion articulated as pity in much of the attribution literature was more akin to sympathy, the next hypothesis examined the moderating influence of each sympathy on the relationship between attribution and social attraction.

Hypothesis 6: The influence of attribution on social attraction will be moderated by pity such that when attribution and false superior pity are high, social attraction will be at its lowest (a). The influence of attribution will be moderated by sympathy such that when sympathy is high and attribution is low, social attraction will be highest (b).

The last two hypotheses tested whether false superior pity qualified as a negative affective response per Florian et al.'s (1999) work. Support for these hypotheses would indicate that pity is problematic in the ways espoused by scholars who study infantilizing

support offered to denigrated groups (Boleyn–Fitzgerald, 2003; Corrigan, 2017; Fominaya et al., 2016b).

Hypothesis 7: Higher false superior pity will predict lower social attraction to members of a denigrated group.

Hypothesis 8: Higher false superior pity will predict lower support for a policy that would benefit denigrated groups.

Method

The discussion of the research method includes an overview of the purpose of the study and study design, a summary of study participants, and study procedures for the study.

Purpose of Study

This study aimed to understand how attribution and threat levels influence the expression of pity towards members of fluid groups and if this influence followed the pathways specified by the S-EPPM.

Study Design

A 2 (Multiple Stigma Threat Level: Higher (COVID-19 Disparity Text) versus Lower (No COVID-19 Text) by 2 (Attribution Level: Higher (Obesity) versus Lower (Advanced Age)) factorial design, with sample stratified by race (African American, Black or White).

Participants

Participants (n = 830) opted into the study via the Prolific Academic platform. Several participants did not complete the survey following consent (n = 28), leaving a

sample of (n = 802). Due to non-response on specific items or specific comparison groups of interest, some models varied in sample size.

Participant Characteristics

All participants were over the age of 18 and residents of the United States of America.

Intentional stratification achieved a sample wherein 50% of participants identified as White and 50% identified as Black or African American. Two survey postings specified pre-screening by race and resident status recruited these participants. The rationale for this choice is the historical under-representation of certain groups in research, limiting the generalizability of results to white males. African Americans also experience a higher prevalence of obesity than any other racial group in the United States (Byrd et al., 2018). At the same time, a more nuanced relationship with body size among African American women has also been examined (e.g., Gramaglia et al., 2018; Hart et al., 2016). For example, Hart et al. (2016) found that while explicit anti-fat bias was lower among African American women than non-Hispanic, White women, implicit bias was about the same and partially explained by a lower level of identification with their ethnicity. Whereas, for White women, ethnic identification amplified bias. These stratified data will be examined in a future study assessing racial differences in perceptions of denigrated targets and risk associated with COVID-19 and whether the influence of pathogen association is stronger within either racial group. The current design stratification allows for the proposed representation of threat appraisals to be tested more robustly.

Although a few participants indicated identifying with multiple races, later analyses are limited to two racial categories for parsimony and model stability. However, the full description of possible racial identifications is included in Table 1, alongside additional demographics.

The participants also reported the percentage of people in their social circle who are larger-bodied ($M(SD)=34.01(22.80)$, $se=0.81$) who are of advanced age ($M(SD)=23.58(18.39)$, $se=0.65$), and who have had COVID-19 ($M(SD)=23.51(25.37)$, $se=0.90$).

Additionally, participants reported their somatotype and their perceived ideal somatotype. Stunkard's visual scale (Parzer et al., 2021; Stunkard et al., 1983) provided a visual representation of size increases from 1 to 9. The most common ideal selected was type 4, with 43.5% of participants making this selection. A majority (96.2%) selected figures below 6, which is the figure indicative of being overweight.

Chi-square analyses indicated that the characteristics listed below did not differ significantly by experimental groups.

Table 1

Participant Demographic Table

Characteristic	Level of Characteristic	N	Proportion
Gender Identity	Woman	423	52.7
	Man	362	45.1
	Trans Woman	1	0.1
	Trans Man	1	0.1
	Trans	0	0.1
	Non-binary	11	1.4
	Genderqueer	2	0.2

Characteristic	Level of Characteristic	N	Proportion
Education Level	Prefer not to answer	1	0.1
	No Response	1	0.1
	Less than High School	5	0.6
	High School	102	12.7
	Some College, no certification	179	22.3
	Associates Degree	79	9.8
	Technical School Degree or Certification	24	3.0
	Bachelors' Degree	286	35.6
	Masters' Degree	108	13.4
	Advanced Professional Degree	10	1.2
	Doctoral Degree	8	1.0
Political Party	No Response	1	0.1
	Democrat	407	50.7
	Republican	112	13.9
	Independent	247	30.8
	Green Party	7	0.9
	Working Families Party	2	0.2
	Other	25	3.1
Relationship Status	No Response	2	0.2
	Single	322	40.1
	Dating Exclusively	87	10.8
	Dating Casually	32	4.0
	Domestically Partnered	53	6.6
	Married	248	30.9
	Separated	9	1.1
	Divorced	40	5.0
	Widowed	9	1.1
	Other	1	0.1
No Response			

Characteristic	Level of Characteristic	N	Proportion
Parental Status	No Children	560	69.7
	Children 0-4 years only	46	5.7
	Children 5-18 years only	127	15.8
	Mixed Age Children	41	5.1
	No response	1	0.1
Employment	Employed full-time (36+ hours)	382	47.6
	Employed full-time, full-time student	1	0.1
	Employed full-time, part-time student	7	0.9
	Employed full-time, self employed	12	1.5
	Employed part-time, (less than 36 hours)	91	11.3
	Employed part-time, full-time student	21	2.6
	Employed part-time, part-time Student	3	0.3
	Employed part-time, self-employed	16	2.0
	Full-time student	37	4.6
	Part-time student	8	1.0
	Part-time home/family caretaker (unpaid)	11	1.4
	Part-time home/family caretaker(unpaid), self-employed	2	0.2
	Full-time home family caretaker (unpaid)	82	10.2
	Full time home/family caretaker (unpaid), self-employed	6	0.7
	Self-employed	108	13.5
	No Response	11	1.4
	Ethnicity	Hispanic/Latinx/o/a/e	9
Hispanic not Latinx/o/a/e		28	3.5
Latinx/o/a/e not Hispanic		1	0.1
Neither Hispanic nor Latinx/o/a/e		763	95.0
No Response		1	0.1
Race	African American, Black exclusively	380	47.3
	African American, Black and Native Hawaiian or other Pacific Islander	1	0.1

Characteristic	Level of Characteristic	N	Proportion
	African American, Black and Asian	2	0.2
	African American, Black and American Indian or Alaskan Native	4	0.5
	African American, Black and white	6	0.7
	White exclusively	394	49.1
	White and Native Hawaiian or other Pacific Islander	0	0
	White and Asian	1	0.1
	White and American Indian or Alaskan Native	0	0
	American Indian or Alaskan Native	1	0.1
	Asian	4	0.5
	Native Hawaiian or other Pacific Islander	1	0.1
	Other, other mixed race	6	0.7
	No Response	1	0.1
Body Type	1	8	1.0
	2	62	7.7
	3	106	13.2
	4	185	23.0
	5	167	20.8
	6	135	16.8
	7	86	10.7
	8	39	4.9
	9	12	1.5
	No Response	2	0.2

Note: Chi2 tests indicate that demographics did not problematically influence randomization into conditions.

Table 2 indicates sample characteristics measured on continuous scales.

Table 2*Continuous Measures of Participant Characteristics*

Characteristic	Mean(SD)	se	Median
Income (n=785)	71311(126374)	4510.47	53000
Age (n=801)	39(14)	0.49	36
Political Ideology (n=800) [1= Extremely Conservative, 7= Extremely Liberal]	4.80(1.68)	0.06	5
Difference between Personal and Ideal Body Type (n=800) (-8 to +8)*	1.01(1.53)	0.05	1
Believed Prevalence of Obesity*	46.92(17.19)	0.61	44
Believed Prevalence of Advanced Age*	39.56(17.60)	0.62	35

Procedure

First, participants accessed the study through an opt-in link associated with their Prolific Academic profile and provided electronic consent. Next, they responded to a short series of demographic questions, including racial and gender identity, to branch them into the appropriate group of stimuli, visually similar to their reported gender and racial identity, then randomized into one of the four conditions or control.

Participants in the high threat condition read a brief text describing people with obesity and people of advanced age as more vulnerable to severe outcomes from COVID-19 infection, then reviewed images of healthy advanced age or obese targets. The images were medium shots of people working in an office or outdoor setting with neutral expressions. The images were accompanied by questions to assess the severity of the

threat to self-trajectory, the plausibility of identity shift, collective efficacy, attribution, pity, additional affective response, social attraction, and context-specific policy support.

Next, they reviewed images of hospitalized COVID-19 patients. They responded to items assessing the severity of the threat to self-trajectory, plausibility of identity shift, collective efficacy, attribution, pity, self-efficacy, intention to perform protective behaviors, and support for policies related to COVID-19. These images were also medium shots, with all patients in a hospital bed with a ventilator tube in or directly adjacent to their mouth. The patients all appeared to be young adults with low visible adiposity. Responses to these stimuli are included in a separate study assessing the dynamics between denigrated groups and superseding stigmatizing conditions, i.e., communicable disease.

Stimuli.

The discussion of stimuli used in the study includes an overview of the congruence argument and constructs intentionally manipulated within the experiment.

Congruence Argument.

While the pathogen threat intentionally introduced what Himmelstein et al. (2017) describe as ‘double jeopardy’ in the high threat conditions, additional levels of stigma would be undesirable. To avoid capturing the impact of racial bias and gender bias (Himmelstein et al., 2017; Latner et al., 2005) and potentially reducing the threat's realism associated with the target images, participants viewed stimuli phenotypically similar to their self-reported gender and racial characteristics.

Manipulated Constructs.

Below, the constructs intentionally manipulated within the experiment are described.

Attribution of responsibility. Sociofunctional theories of prejudice (e.g., Cottrell & Neuberg, 2005) and attribution theory (e.g., Corrigan et al., 2003) categorize derogated identities based on perceptions of responsibility. While there is extensive research concerning the attribution of life circumstances to obese individuals (see Reynolds et al., (2020) for a recent review), people of advanced age are less often categorized this way by theorists. Some empirical work suggests individual attribution is not a relevant predictor for evaluating these targets (e.g., Rupp et al., 2006). Therefore, causal attribution is operationalized by varying the category of derogated identity.

Threat. The higher threat condition included text describing the increased threat COVID-19 posed to people with obesity and advanced age (e.g., Ebinger et al., 2020; Gallo Marin et al., 2021) and was intended to amplify the perceptions of threat associated with the idea of transitioning into these vulnerable identities. Media coverage of COVID-19 since mid-2020 categorized people with obesity (Brookes, 2021; Flint, 2020) and people of advanced age (Morgan et al., 2021; Zhang & Liu, 2021) as more vulnerable to severe outcomes from COVID-19 infection.

Measures

The full instrument is available in Appendix A. When the items associated with an image assessed threat, pity, attribution, affective response, social attraction, and helping, the verbiage specified that the response should be about someone like the person

pictured. The unit of measurement across all items was a seven-point Likert scale (i.e., Strongly Disagree (1) to Strongly Agree (7)) unless otherwise noted.

Measures of Manipulated Variables

The researcher identified three measures of manipulated variables: attribution of responsibility, threat severity, and plausibility of an identity shift.

Attribution of Responsibility. This item asked participants the degree to which the group's representative (i.e., the person in the image) and situational factors were responsible for negative outcomes associated with their condition. The net of individual responsibility minus situational responsibility was used in subsequent analyses. So, this item ranges from -6 to 6.

Threat Severity. Measures of threat severity include perceptions of self-trajectory shifts that would occur in response to being like the targets pictured in the stimulus (e.g., “How would your life change if you became like the person pictured?” with responses ranging from Extremely Worse to Extremely Better) These items were based on the S-EPPM (R. A. Smith et al., 2007).

Plausibility of Identity Shift. This construct was measured with three items assessing the belief that the participant would likely become like the person pictured, also based on EPPM (Witte, 1992) and S-EPPM (Smith et al., 2007), though framed differently.

Dependent Variables

The researcher selected the following dependent variables, including false superior pity, affective response, social attraction, policy, and efficacy, for inclusion in the questionnaire.

False Superior Pity. Measured with a shortened, four-item version of Florian et al.'s (1999) scale indicating feelings of pity toward the target. For example, “I am more fortunate than this person.”

Affective Response. Several frameworks inform which affective responses the instrument assessed. Per the BIAS Map (Cuddy et al., 2007), this measure includes degrees of feeling pity, contempt, admiration, and envy. Given the potential connection to pathogen disgust associated with the health threat text, the measure includes disgust (Park et al., 2007). Additionally, this measure included sympathy and concern as indicators of which pity expression may be associated with the stimulus (Florian et al., 1999).

Social Attraction. Social attraction was measured using an adapted version of the social dimension of McCroskey and McCain's (1974) scale of interpersonal attraction. This measure included items such as, “The person pictured could be a friend of mine,” rated on a seven-point Likert scale.

Policy. Policies include existing policies associated with each derogated group, policies tested in prior research as punitive (Barry et al., 2009; Niederdeppe et al., 2014), and policies recommended by issue advocacy agencies associated with each group (e.g., the Health and Aging Policy Fellows and Obesity Action Coalition) (*Health and Aging Policy Fellows Program | Shaping a Healthy and Productive Future for Older Americans*, 2021.; *Why the OAC Exists*, 2021). Whereas Smith et al. (2007) used perceptions of community members' willingness to adopt AIDS orphans as an outcome, the current study operationalized collective help as support for policies designed to implement structural change that would benefit or punish group members.

Efficacy. The instrument measured several dimensions of efficacy at different stages in the study.

Collective/social. An adapted version of Smith et al.'s (2007) measure to assess participants' perceptions of community willingness and ability to assist members of the derogated group represented by the image, e.g., "Members of my community are willing to join in and do their share of the work to help people like the one pictured."

Self-social. An adapted version of Smith et al.'s (2007) measure of the participants' personal feelings they would and could help a person in this group despite other community members' feelings toward that gesture.

Self-Behavioral. Conceptually, this measure and its verbiage come from Witte's (1992) fear appeal literature and includes language that expresses the ease with which one feels behaviors could be adopted (e.g., "I am able to exercise three times a week even when my schedule is very busy").

Response. The verbiage from these items comes from Witte's (1992) fear appeal literature. It includes items meant to assess the effectiveness of behavioral uptake (e.g., "Moderate exercise three times a week will effectively promote cognitive health").

Political Response. This item assesses the participant's perceptions of policy change and government as an effective means of structural change that would resolve health issues (e.g., "Policy change is an effective way to resolve public health issues").

Behavioral Intentions. Behavioral intentions were drawn from the literature on behaviors that support a healthy lifestyle under conditions of weight change (e.g., Hatchell et al., 2013), aging (e.g., Law et al., 2020), and COVID-19 (e.g., Lithopoulos et al., 2021; Roberto et al., 2021), for example, "I will exercise several times per week."

Vulnerability. Participants reported the vulnerability to severe COVID-19 among people with obesity, people of advanced age, and unvaccinated adults (e.g., “I consider obese people to be a vulnerable group”).

Odds of Severity. Participants reported how likely they believe people with obesity and people of advanced age would be to die and hospitalization if they become infected with COVID-19. For example, “People with obesity are ____ times more likely to die from COVID-19 than people of healthy weight.”

Control variables included the demographic, somatic, and social contact characteristics listed in the description of the participants.

Analysis and Results

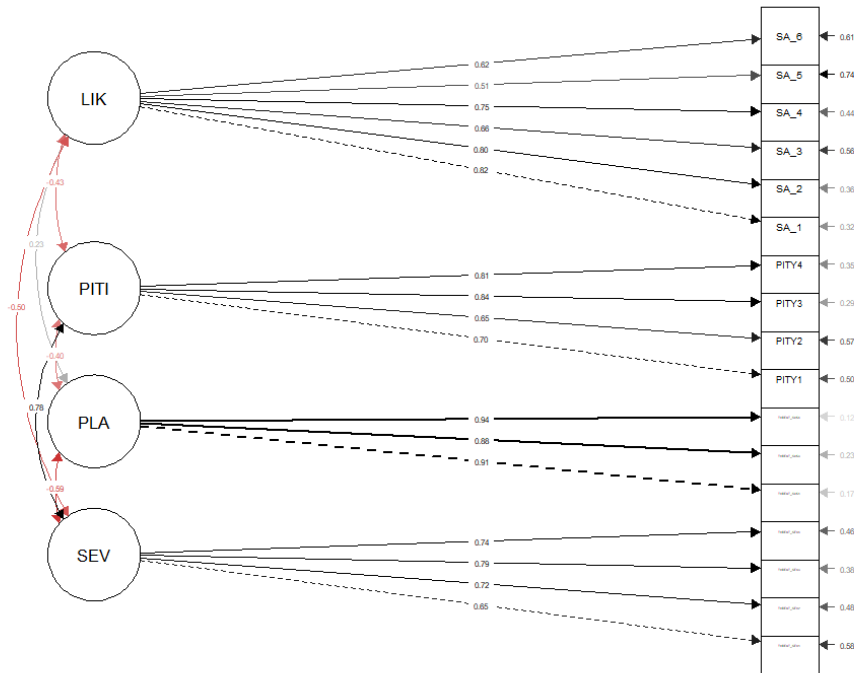
All analyses took place in R version 4.1.3; scripts are available upon request. This section begins with descriptive statistics and confirmatory factor analysis for measures of key threat perception constructs. Next, the results of hypothesis tests are presented according to the type of analyses performed. A discussion and conclusion follow the analysis and results section.

Confirmatory Factor Analysis of Items Related to Outcome Variables

Confirmatory factor analysis was applied to several outcome variables due to their limited prior use in the literature. These analyses suggest an acceptable fit to the data and factor loadings above the minimum value (0.40) (see figure 1). The square of the factor loading represents the proportion of variance explained by the latent factor. For example, the construct of liking explains 26% of the variance in item SA_5 (“We could never establish a personal friendship with each other.”), but 67% of the variance in SA_1 (“I

think this person could be a friend of mine.”). The more homogenous these loadings are, the higher likelihood they will make a reliable scale if the goal is to mean scale.

Figure 1



Confirmatory Factor Loadings for Items Measuring Several Outcome Variables

Descriptive Statistics of Measured Variables

Descriptive statistics did not indicate large standard errors in measured constructs (see Tables 3 and 4). Alphas were, for the most part, acceptable. However, the policy composites were not reliable.

Further, the support items and scales evidenced negative skew large enough to impact the residuals when included in testing. Thus, the hypothesis testing is presented with the caveat that this measure included transformations (Norris & Aroian, 2004),

bootstrapping (Hayes, 2018; Russell & Dean, 2000), and sometimes polynomial terms to stabilize the models. Related results should be considered with this level of data processing in mind since, although common practice, these approaches have received criticism (Feng et al., 2014; Lee, 2020). Additionally, some participants seemed confused by the items related to the odds of severe outcomes of COVID-19. These items were meant to be a manipulation check but were not included in the study analyses due to the enormous standard error (12.49 to 1246.85).

Table 3*Descriptive Statistics of Constructs Under Study*

Variable	M(SD)	Se	Alpha
Net Attribution of Resp to Ind	-0.12(2.00)	0.07	NA
Severity of Threat to Self-Trajectory	3.38(1.25)	0.04	0.81
Plausibility of Identity Shift	3.70(1.81)	0.06	0.93
Collective Efficacy	4.51(1.45)	0.05	0.90
False Superior Pity	3.41(1.27)	0.04	0.84
Pity Item	2.02(1.41)	0.05	NA
Sympathy Item	3.07(1.74)	0.06	NA
Concern Item	3.08(1.78)	0.06	NA
Envy Item	1.36(0.91)	0.03	NA
Contempt Item	1.55(1.24)	0.04	NA
Disgust Item	1.33(0.91)	0.03	NA
Social Attraction	5.31(1.07)	0.04	0.84
Helping Intention	5.15(1.21)	0.04	0.61
Supportive Policy	5.31(1.31)	0.05	0.65/0.72
Punitive Policy	3.50(2.03)	0.07	0.71/.52
Policy Efficacy	4.97(1.37)	0.05	NA
Government Efficacy	3.72(1.66)	0.06	NA
Vulnerability Obesity	5.65(1.30)	0.05	NA

Variable	M(SD)	Se	Alpha
Vulnerability Advanced Age	6.18(1.06)	0.04	NA
Vulnerability Unvaccinated	5.07(1.83)	0.06	NA

Note. Although threat to self-trajectory has a lower alpha confirmatory factor analysis does suggest that these items measure a single construct.

Table 4*Descriptive Statistics of Outcome Variables by Condition*

Variable	Control for COVID-19 Comparisons		High Attribution: Obese Condition				Low Attribution: Advanced Age Condition			
	COVID-19 Image, then Obesity Image (n=171)		Threat Message (n=162)		No Message (n=157)		Threat Message (n=155)		No Message (n=159)	
	M(SD)	se	M(SD)	se	M(SD)	Se	M(SD)	Se	M(SD)	Se
Net Attribution of Resp to Ind	0.46(2.04)	0.16	0.30(1.86)	0.15	0.30(2.01)	0.16	-0.77(1.62)	0.13	-0.97(1.97)	0.16
Severity of Threat to Trajectory	3.51(1.27)	0.10	3.97(1.29)	0.10	3.54(1.34)	0.11	2.95(1.10)	0.09	2.90(0.89)	0.07
Plausibility of Identity Shift	3.04(1.67)	0.13	2.66(1.48)	0.12	2.94(1.47)	0.12	5.11(1.39)	0.11	4.82(1.42)	0.11
Collective Efficacy	4.03(1.49)	0.11	3.93(1.39)	0.11	4.23(1.46)	0.12	5.19(1.21)	0.10	5.25(1.06)	0.08
False Superior Pity	3.53(1.28)	0.10	3.81(1.24)	0.10	3.26(1.33)	0.11	3.19(1.22)	0.10	3.23(1.19)	0.09
Pity Item	2.00(1.46)	0.11	2.07(1.41)	0.11	2.00(1.41)	0.11	1.95(1.32)	0.11	2.06(1.43)	0.11
Sympathy Item	2.78(1.83)	0.14	3.09(1.71)	0.13	2.81(1.64)	0.13	3.21(1.72)	0.14	3.47(1.73)	0.14
Concern Item	2.78(1.92)	0.15	3.42(1.71)	0.13	2.93(1.76)	0.14	3.03(1.72)	0.14	3.26(1.70)	0.13
Envy Item	1.33(0.96)	0.07	1.28(0.73)	0.06	1.33(0.76)	0.06	1.54(1.14)	0.09	1.35(0.90)	0.07
Contempt Item	1.54(1.25)	0.10	1.65(1.41)	0.11	1.56(1.23)	0.10	1.62(1.28)	0.10	1.36(0.96)	0.08
Disgust Item	1.37(0.94)	0.07	1.56(1.11)	0.09	1.41(1.02)	0.08	1.17(0.69)	0.06	1.15(0.64)	0.05
Social Attraction	5.30(1.12)	0.09	5.46(1.02)	0.09	5.53(0.94)	0.08	5.07(1.15)	0.09	5.21(1.04)	0.08

Variable	Control for COVID-19 Comparisons		High Attribution: Obese Condition				Low Attribution: Advanced Age Condition			
	COVID-19 Image, then Obesity Image (n=171)		Threat Message (n=162)		No Message (n=157)		Threat Message (n=155)		No Message (n=159)	
	M(SD)	se	M(SD)	se	M(SD)	Se	M(SD)	Se	M(SD)	Se
Helping Intention	4.92(1.14)	0.09	4.94(1.17)	0.09	4.91(1.18)	0.09	5.52(1.18)	0.10	5.50(1.20)	0.10
Supportive Policy	4.79(1.26)	0.10	4.98(1.29)	0.10	4.90(1.27)	0.10	6.00(1.13)	0.09	5.94(1.04)	0.08
Punitive Policy	2.23(1.23)	0.09	2.35(1.37)	0.11	2.12(1.26)	0.10	5.48(1.31)	0.11	5.47(1.16)	0.09
Policy Efficacy	4.73(1.35)	0.10	5.14(1.31)	0.10	4.87(1.55)	0.12	5.06(1.39)	0.11	5.07(1.22)	0.10
Government Efficacy	3.72(1.68)	0.13	3.99(1.67)	0.13	3.46(1.64)	0.13	3.83(1.64)	0.13	3.57(1.63)	0.13
Vulnerability Obesity	5.33(1.42)	0.11	5.93(0.97)	0.08	5.66(1.32)	0.11	5.83(1.33)	0.11	5.55(1.34)	0.11
Vulnerability Advanced Age	6.04(1.30)	0.10	6.27(0.84)	0.07	6.18(1.10)	0.09	6.14(1.06)	0.08	6.27(0.95)	0.08
Vulnerability Unvaccinated	4.95(1.92)	0.15	5.31(1.57)	0.12	4.97(1.98)	0.16	5.11(1.82)	0.15	5.01(1.82)	0.14

Hypothesis Testing

Throughout these analyses, results of models with covariates are reported. These covariates include race (African American, Black, or White), income, age, the belief that “the political system in the United States allows people like me to have a say in what the government does,” the belief that “Changing policy is an effective way to resolve health issues,” the difference between current and ideal body size, political ideology, political party, gender, education, employment status, partner status, and presence of children in the household as well as the proportion of their social circle that had COVID-19, the proportion with obesity, and the proportion of advanced age. When hypotheses were contingent upon experimental manipulations, the sample was limited to only those relevant conditions. When hypotheses referred to constructs without making a direct prediction based on experimental manipulation, the analyses included the full sample unless otherwise noted.

Most of these analyses dealt with the set less the COVID-19 first condition to compare the influence of the presence or absence of the disparity text within each contextual condition. Occasionally, due to the nature of certain applications, including the Hayes Process for mediation, groups were further broken down to allow for binary predictors.

Hypothesis 1 The broader construct of threat appraisal is represented by finer dimensions, specifically attribution of responsibility, the plausibility of identity shift, and severity of the threat to self-trajectory.

The general basis for this hypothesis is that EPPM and S-EPPM refer to severity and susceptibility as dimensions of threat and attribution theory, and the model of stigma

communication (Smith, 2014) emphasizes the element of responsibility in assessing denigrated targets.

Confirmatory factor analysis performed using the *r* package lavaan (Rosseel, 2012) did not support these concepts as dimensions of a single latent construct. The variance of the latent construct was negative, indicating a very poor fit between the model and the data.

Given this finding, these constructs are each treated separately in these analyses and models rather than in aggregate as ‘threat appraisal’; this treatment differentiates the analytic approach from Smith et al.’s (2007) test of the S-EPPM constructs in the context of HIV and offers the potential of a separate appraisal of the plausibility of identity shift in the stigma communication context when dealing with fluid group boundaries.

Mediation Analyses

Mediation analyses were performed in R version 4.1.3 using the mediation package (Tingley et al., 2014) and the Process Macro function for R (Hayes, 2018). First, the total effect of the predictor variable according to simple linear regression was noted. Next, as a prerequisite of mediation analysis, the effect of the predictor variable on the mediator was tested using multiple linear regression. If this relationship could be confirmed, the next step predicted the influence of the predictor and mediator on the outcome variable through multiple regression, termed direct effects within the Process function and output. If the influence of the mediator in this model met the threshold for significance at the 95% level, then both the Process and mediate functions tested the effects of the two models against one another to distinguish the indirect effect (i.e.,

mediation) from the direct effect. If both 95% confidence interval limits fall on the same side of zero (0), then the indirect effect has met the threshold for significance.

Research Question One asked: How do threat-related constructs of the severity of the threat to self-trajectory, plausibility of identity shift, and attribution of responsibility explain responses to denigrated targets relative to the EPPM and attribution theory propositions?

Per S-EPPM, threat severity and plausibility (unchecked by efficacy) should negatively influence social attraction and positively influence distancing measures like false superior pity. Attribution theories of prejudice posit attribution of responsibility to the individual should explain contexts where negative affect, operationalized as false superior pity here, is high, and that should also predict lower social attraction and support.

Running model 4 in Process as a parallel mediation analysis provided contrasts to help gauge which constructs best explain the relationship between condition and pity. The only problem in running the model this way is evidence of multicollinearity between plausibility and severity in the model of direct effects, based on eigenvalues and correlation. However, this type of modeling does provide indicators of the comparative strength among mediators.

According to Hayes (2018), when parallel mediation indicates opposing signs compared to simple mediation models, it can still be interpreted in terms of the other mediators being present and held constant. Hayes (2018) argues that choosing to interpret the simple model neglects to account for the other simultaneous mediators.

The outcomes of the models run both ways are summarized below.

Simple Mediation with Covariates.

As described in the literature section, this study aimed to assess whether false superior pity would serve as an affective outcome to threat appraisal, similarly to fear in the original EPPM, and whether this form of pity would be predicted by attribution.

Moving into the individual models with covariates, the individual model of threat severity as mediator suggested an indirect effect ($ab=-0.58$, $se=0.06$, CI: -0.713 to -0.446) between conditions (obese v aged) and pity through severity. Both obese versus aged condition ($sr^2=.01$, $b=0.56$, $se=0.08$, $t=3.09$, $p=.002$) and severity ($sr^2=.34$, $b=0.66$, $se=0.03$, $t=18.98$, $p<.001$) were significant predictors in the model of direct effects ($F(18, 572)=26.88$, $p<.001$, $R^2=0.46$) on pity ($EMM=3.48$, $se=0.07$; $EMM_{Obese}=3.35$, $se=0.08$; $EMM_{Age}=3.61$, $se=0.08$).

The individual model of plausibility as a mediator between condition and pity also supported an indirect effect ($ab=-0.61$, $se=0.08$, CI: -0.791 to -0.453). Both condition ($sr^2=.01$, $b=0.29$, $se=0.12$, $t=2.47$, $p=.014$) and plausibility ($sr^2=.09$, $b=-0.29$, $se=0.03$, $t=-8.28$, $p<.001$) were significant predictors in the model of direct effects ($F(18,572)=8.53$, $p<.001$, $R^2=0.22$) on pity ($EMM=3.36$, $se=0.08$; $EMM_{Obese}=3.21$, $se=0.11$; $EMM_{Age}=3.51$, $se=0.10$). In this model (absent severity), plausibility negatively influenced false superior pity.

The results of the individual model of attribution of responsibility to the individual as a mediator between condition and pity did not reach the threshold for significance ($ab=-0.02$, $se=0.04$, CI: -0.09 to 0.05), which was consistent with the parallel mediation.

Thus, according to simple mediation models, this form of pity operated as an outcome of the threat to severity and plausibility of identity shift, but not to attribution of responsibility.

Parallel Mediation with Covariates.

Moving the analyses into a parallel mediation model that accounted for covariates, severity, plausibility, and attribution were all associated with significant indirect effects between condition and pity (see Table 5).

Table 5

Indirect Effects of Condition on Pity Through Three Mediators

	ab	se	95% Confidence Interval
Total	-0.70	0.09	-0.884 to -0.518
Severity of Threat to Self-Trajectory	-0.55	0.07	-0.682 to -0.419
Plausibility of Identity Shift	-0.20	0.08	-0.356 to -0.055
Attribution of Responsibility to the Individual	0.05	0.03	0.002 to 0.112

Note. The confidence intervals refer to the outcome of unstandardized indirect effects computed for each of 10'000 bootstrapped samples. The 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. If both values are on the same side of zero, the effect is significant. This model contained the following covariates: race (African American, Black, or White), income, age, proportion of social circle having had COVID-19, obesity, or advanced age, and belief that “the political system in the United States allows people like me to have a say in what the government does,” belief that, “Changing policy is an effective way to resolve health issues,” difference between current and ideal body size, political ideology, political party, gender, education, employment status, partner status, and presence of children in the household.

The planned contrasts also indicated that these indirect effects differed in strength. The strongest mediator was the severity of the threat to self-trajectory, and the weakest was the attribution of responsibility (Table 6). The effect of attribution on pity in this model was small.

Table 6*Contrasts of Indirect Effects of Conditions on Pity Through Three Mediators*

	Difference ab	se	95% Confidence Interval
Severity minus Plausibility	-0.34	0.11	-0.556 to -0.134
Severity minus Attribution	-0.60	0.07	-0.751 to -0.461
Plausibility minus Attribution	-0.26	0.08	-0.427 to -0.096

Note. The confidence intervals refer to the outcome of 10,000 bootstrapped samples testing for the difference in the strength of each mediation in a parallel mediation, including the severity of the threat to self-trajectory, the plausibility of identity shift, and attribution of responsibility. This model contained the following covariates: race (African American, Black, or White), income, age, proportion of social circle having had COVID-19, with obesity, or of advanced age, and belief that “the political system in the United States allows people like me to have a say in what the government does,” belief that, “Changing policy is an effective way to resolve health issues,” difference between current and ideal body size, political ideology, political party, gender, education, employment status, partner status, and presence of children in the household.

These results indicated that the plausibility of identity shift and severity of the threat to self-trajectory helped explain the relationship between images of these two denigrated groups and false superior pity as a negative affective response. This finding suggests that adding plausibility of identity shift could complement the other threat appraisal conceptualizations in predicting affective response. The relationship between attribution and false superior pity was more complicated. Still, given the weakness of the relationship in the parallel model, and the lack of an indirect path in the simple model, attribution did not enhance the explanation of the relationship between the images and false superior pity.

Parallel Mediation Between Context Condition and Social Attraction

Next, whether the severity of the threat to self-trajectory, plausibility of identity shift, and attribution of responsibility would predict positive responses to images of people with obesity and of advanced age (i.e., representatives of denigrated groups) was

explored through similar analytical methods. According to the EPPM and attribution theory, the severity of the threat to trajectory and attribution of responsibility to the individual should negatively predict social attraction, but plausibility may show more variance. A positive relationship could indicate a desire to approach this possible self, whereas a negative relationship may indicate higher rejection as the identity becomes more imminent.

A parallel mediation model of the indirect effects of obesity versus advanced age conditions on social attraction indicated that severity and plausibility mediated this relationship. In contrast, attribution did not (see Table 7). The model of direct effects on social attraction ($F(20,570)=12.93$, $p<.001$, $R^2=0.46$) indicated that severity negatively influenced social attraction ($sr^2=.11$, $b_1=-0.33$, $se=0.04$, $t=-9.30$, $p<.001$) and plausibility positively influenced social attraction ($sr^2=.01$, $b_2=0.07$, $se=0.03$, $t=2.44$, $p=0.01$). Condition also influenced social attraction ($sr^2=0.09$, $c'=-0.83$, $se=0.10$, $t=-8.70$, $p<.001$, $EMM=5.28$, $se=0.06$; $EMM_{Obese}=5.69$, $se=0.08$; $EMM_{Age}=4.86$, $se=0.08$). Despite similar facial expressions across stimuli and the absence of stereotypical warmth cues, the person with obesity was met with higher social attraction from participants.

Table 7

Indirect Effects of Condition on Social Attraction Through Three Mediators

	ab	se	95% Confidence Interval
Total	0.487	0.07	0.344 to 0.635
Severity of Threat to Self-Trajectory	0.290	0.05	0.205 to 0.383
Plausibility of Identity Shift	0.154	0.07	0.012 to 0.292
Attribution of Responsibility to the Individual	0.043	0.03	-0.01 to 0.098

Note. The confidence intervals refer to the outcome of unstandardized indirect effects computed for each of 10'000 bootstrapped samples. The 95% confidence interval was computed by

determining the indirect effects at the 2.5th and 97.5th percentiles. If both values are on the same side of zero, the effect is significant. This model contains the following covariates: race (African American, Black, or White), income, age, proportion of social circle having had COVID-19, with obesity, or of advanced age, and belief that “the political system in the United States allows people like me to have a say in what the government does,” belief that, “Changing policy is an effective way to resolve health issues,” difference between current and ideal body size, political ideology, political party, gender, education, employment status, partner status, and presence of children in the household.

Contrasts indicated that the severity of the threat to the trajectory is a more powerful mediator than attribution of responsibility (see Table 8).

Table 8

Contrasts of Indirect Effects of Condition on Pity Through Three Mediators

	Difference ab	se	95% Confidence Interval
Severity minus Plausibility	0.123	0.092	-0.041 to 0.318
Severity minus Attribution	0.247	0.054	0.143 to 0.355
Plausibility minus Attribution	0.111	0.079	-0.039 to 0.264

Note. The confidence intervals refer to the outcome of unstandardized indirect effects computed for each of 10'000 bootstrapped samples. The 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. If both values are on the same side of zero, the effect is significant. This model contains the following covariates: race (African American, Black, or White), income, age, proportion of social circle having had COVID-19, with obesity, or of advanced age, and belief that “the political system in the United States allows people like me to have a say in what the government does,” belief that, “Changing policy is an effective way to resolve health issues,” difference between current and ideal body size, political ideology, political party, gender, education, employment status, partner status, and presence of children in the household.

The severity of threat perception and plausibility of identity shift each predicted social attraction. And that these constructs predicted social attraction in inverse directions. Further, the severity of the threat to self-trajectory and plausibility of identity shift each mediated the relationship between condition and social attraction, and attribution did not.

Parallel Mediation of Multiple Stigma Text Conditions and Pity

Next, the possibility of an indirect relationship between primed multiple stigma threat, operationalized as the presence of a text that described increased risk of severe COVID-19 outcomes for people with obesity and people of advanced age, and pity through threat appraisal and attribution were considered. In this case, the text's intended effect was to increase the severity of the threat, so this construct was anticipated to be the strongest mediator.

The results of a parallel mediation model of the indirect effect of text condition on pity indicated that only threat severity operated as a mediator between the presence of text and pity ($ab=0.15$, $se=0.06$, CI: .027 to .0271). In the direct effect model ($F(20,570)=24.11$), $p<.001$, $R^2=0.46$) threat severity ($sr^2=0.25$, $b=0.62$, $se=0.04$, $t=16.13$, $p<.001$) and attribution ($sr^2=.01$, $b=-.06$, $se=0.02$, $t=-2.83$, $p=.005$) predicted pity, whereas text condition did not ($p=.303$).

Acknowledging the lack of indirect effect through plausibility and the possibility for collinearity with severity, the model was also run without plausibility. Still, the results remained the same; only threat severity ($ab=0.15$, $se=0.06$, CI: .028 to .0280) mediated the relationship between text condition and pity. The direct effect of threat severity on pity also increased without plausibility in the model ($sr^2=0.35$). This result was not surprising, given the goal of the text was to activate perceptions of higher severity.

The possible roles of the severity of the threat to self-trajectory, plausibility of identity shift, and measured attribution of responsibility in explaining the relationships between the experimental conditions and both negative and positive responses to the stimuli were explored above. This effort was designed to determine if the severity of the

threat to self-trajectory and plausibility of identity shift from the S-EPPM concept demonstrate similar predictive patterns in response to denigrated groups as the original EPPM concepts do in risk response. The analyses above indicate threat appraisal dimensions likely function similarly across acute risk and threatening identity contexts.

Pity as Mediator

This next set of analyses and results approached the potential of pity as an explanatory mechanism between conditions and constructs related to threat perceptions and positive outcomes, including social attraction and policy support.

Hypothesis 2a/b/c: False superior pity will mediate the relationship between the three threat appraisal perceptions and support for policy that would benefit denigrated groups.

This hypothesis tested the S-EPPM threat perception mechanisms against the attribution theorized pathway to outcomes through pity.

Attribution as Measured Predictor

A mediation model was examined with measured attribution in place of the manipulated condition. Measured attribution predicted policy support, but pity did not when entered alongside measured attribution.

However, within the obese stimuli subset, there was a small indirect effect of attribution on policy support ($ab=0.01$, $se=0.01$, $CI: 0.00-0.03$) through pity. The model indicated net attribution of responsibility to the individual predicted lower false superior pity ($a=-0.09$, $se=.04$, $t=2.40$, $p=.017$). Pity had a positive influence ($b=0.14$, $se=0.04$, $t=2.38$, $p=.018$) when entered into the model alongside attribution ($c'=-0.08$, $se=0.04$, $t=-$

2.00, $p=.046$) and the aforementioned covariates, which differed from the model without these additional covariates.

Hypothesis 2a was partially supported. Pity only mediates the relationship between attribution and policy support within the obese condition.

Plausibility as Measured Predictor

The results of a mediation model predicting the indirect effect of plausibility on policy support through pity supported pity as a mediator in this relationship ($ab=-.02$, $se=0.01$, $CI: -0.043$ to -0.001). In the direct effects model ($F(18, 572)=7.79$, $p<.001$, $R^2=0.19$), both pity ($sr^2=.01$, $b=0.09$, $se=0.04$, $t=2.08$, $p=.038$) and plausibility ($sr^2=.06$, $c'=.18$, $se=0.03$, $t=6.22$, $p<.001$) predicted policy support ($EMM=5.51$, $se=0.08$). Plausibility also had a significant total effect ($c=.16$, $se=.03$, $t=5.85$, $p<.001$), indicating a partial mediation.

Hypothesis 2b was supported in the full data set.

Measured Threat as Predictor

When the model was adjusted to include measured threat severity as the predictor with pity mediating its' influence on policy support, there was evidence of an indirect effect of severity through pity ($ab=.06$, $se=0.03$, $CI:.002$ to $.129$). The model of the direct effects indicated both severity ($b=-0.16$, $se=.05$, $t=-3.17$, $p=.002$) and pity ($b=0.10$, $se=0.05$, $t=1.96$, $p=.0505$) predicted policy support. However, other analyses, including correlation and regressions where beta signs reversed, indicated multicollinearity issues when including both of these constructs as predictors, so the direct effect model may be unstable.

The model supports hypothesis 2c with caution.

The findings suggest that false superior pity mediated attribution's influence on policy support only within the obese subset. In contrast, it mediated the relationships between plausibility and severity with policy support across contexts.

These findings support the notion that pity may be an applicable affective path to consider in S-EPPM and that it represents a negative response to high attribution of responsibility. However, these findings were based on measured constructs, and the policy variable presented some instability. The bootstrapping procedures may not have fully corrected the skewness of residuals related to the models containing policy support, so these results must be considered cautiously. Interpreting the inverse log outcome model for policy support included a reversal of signs that further complicated the interpretation of the exact nature of this relationship due to the possibility of multicollinearity when the two variables are included in a single model. Thus, the models' results should be considered cautiously when including threat appraisal measures and false superior pity.

Further experimental testing or SEM modeling in a future study should confirm these findings. Hypothesis 2 received partial support.

Hypothesis 3: False superior pity will mediate the relationship between context condition (a) as well as between the increased threat condition (b) and policy support.

These analyses were broken down according to the two attribution levels by two threat levels designed to be processed efficiently by the mediation functions available in R version 4.1.3. The purpose of these analyses was to further engage with pity as a potential mechanism for explaining target response in the presence of experimental manipulations.

Advanced Age Versus Obesity Context Mediated by Pity

When comparing results from participants who either responded to a high attribution group (person with high visible adiposity (i.e., obesity)) or a low attribution group (person of advanced age), results supported the predicted relationship between the groups and false superior pity. People with high visible adiposity ($sr^2=.02$, $EMM=3.55$, $a=0.33$, $se=0.10$, $t=-3.17$, $p=.002$) were associated with higher false superior pity ($F(17, 573)=4.48$, $p<.001$, $R^2=0.12$) than people of advanced age. Participants in this group also reported lower support for policies ($sr^2=0.16$, $EMM=$, $c'=-1.02$, $se=0.10$, $t=-11.45$, $p<.001$), that would benefit the denigrated group ($F(18,572)=13.77$, $p<.001$, $R^2=0.30$), in the model accounting for false superior pity ($sr^2=.00$, $b=-0.03$, $se=0.04$, $p=0.37$). However, false superior pity did not mediate the relationship between context conditions and support for policy ($p=0.42$).

Bootstrapping procedures tested the significance of the indirect effect ($ab=-0.01$). Unstandardized indirect effects were computed for each of 10'000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The bootstrapped unstandardized indirect effect was $-.01$, and the 95% confidence interval ranged from $-.04$ to $.01$. Thus, the indirect effect of condition on policy through pity was not significant.

Hypothesis 3a was not supported.

Threat Text Condition Mediated by Pity

Next, the indirect effect of the multiple stigma conditions (i.e., threat text presence) on policy through pity was tested with mediation analysis.

In this case, heightened threat via text (EMM=5.53, $se=.10$, $c'=-.06$ $se=0.10$, $p=.616$). was not a significant predictor of supporting beneficial policy (M=5.45, SD=1.29), compared with no text (EMM=5.48, $se=.10$). However, the disparity text (EMM=3.49, $se=.10$, $a=.22$, $p=.026$) predicted more false superior pity (M=3.37, SD=1.27), compared with no text conditions (EMM=3.27, $se=.10$).

When entered into a model ($F(18,572)=5.3$, $R^2=0.14$, $p<.001$) predicting policy support alongside threat disparity text ($b=0.06$, $se=0.10$, $p=.567$), pity did not reach the threshold of significance ($b=-0.00$, $se=0.04$, $p=.946$).

To better isolate the contribution of the text information on these outcomes, the sample was subset based on attribution conditions (i.e., advanced age and obesity).

Advanced Age. The hypothesis had even less support within the advanced age only group ($F(17,279)=1.95$, $R^2=0.33$, $p=.014$). The threat disparity text (EMM=3.13 $se=.13$, $a=-.06$, $p=.667$) had a null effect on pity (M=3.21, SD=1.2), compared with the no text condition (EMM=3.20, $se=.14$). Thus, the prerequisite for mediation analysis was not met.

Obesity. In the subsample of the obese context, the threat disparity text (EMM=3.91, $se=.15$, $a=.54$, $p<.001$) increased pity (M=3.54, SD=1.31) compared with the no text condition (EMM=3.36, $se=.15$) ($F(17,276)=5.07$, $R^2=0.24$, $p<.001$). In the model regressing policy support (M=4.94, SD=1.28) onto pity and condition ($F(18,275)=3.02$, $R^2=0.41$, $p<.001$), pity ($b=.13$, $se=.06$, $p=.035$) predicted policy support (M=4.94, SD=1.28), but threat text did not (EMM=4.82, $se=.16$, $c'=-0.04$, $p=.770$) compared with no text (EMM=4.90, $se=.15$).

Bootstrapping procedures tested the significance of the indirect effect of the multiple stigma threat conditions through pity on policy support using. Unstandardized indirect effects were computed for each of 10,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The 95% confidence interval ranged from .003 to .157. Thus, the indirect effect, 0.07, was statistically significant. These models also included the same covariates listed across the study.

Generally, pity did not mediate the relationship between the experimental manipulations and policy. In the obese context, the influence of the disparity text on policy support was mediated by pity. So, here it seems the association between people with obesity and COVID-19 severity predicts more support, and this influence, to a small degree, operates through a pity response. Hypothesis 3b was not supported by the full data set but was supported within the obese subset.

Moderation Hypotheses

Moderation describes the relationship among three or more variables. Moderating variables influence the effect of a main predictive variable on an outcome variable (Hayes, 2018, 220). The moderation analyses in the next section took place in R version 4.1.3 using a combination of Hayes PROCESS, lm, and interaction_plot functions. The direct effects of the focal predictor and the moderator on the outcome variable are masked by significant mediators and should not be interpreted. The values associated with the model overall and the interaction term for each moderation hypothesis are reported below, with graphical representation as appropriate.

Collective Efficacy Versus Attribution as Moderators of Condition Context

Attribution of responsibility should amplify negative responses to denigrated targets according to attribution error (e.g., Corrigan et al., 2003; Cozzarelli et al., 2001; Niederdeppe et al., 2011). Conversely, in accordance with the S-EPPM, EPPM and health belief models, feelings of efficacy should amplify positive responses to threats (Biggsby & Albarracín, 2022; Cho & Salmon, 2007), including to denigrated groups, as supported by Smith et al. (2007).

Hypothesis 4(a/b): Measured attribution will moderate the influence of attribution conditions on pity(a) and social attraction(b) such that: attribution will be higher in the obese condition and will be associated with a negative response compared with the advanced age condition.

Measured Attribution of Responsibility

The analyses below assess the influence of measured attribution on whether the participants responded to an obese target or an advanced age target on false superior pity and social attraction.

False Superior Pity. The results of a model ($F(19, 571) = 5.03, p < .001, R^2 = 0.14$) regressing pity ($EMM = 3.32, se = 0.09$) onto the interaction term indicative of attribution moderating the influence of obese or advanced age conditions indicated a significant moderating effect ($sr^2 = 0.03, b = -0.22, se = 0.05, t = -4.13, p < .001$) (see Figure 2). The model was redefined with a polynomial term to account for slight deviations from linearity (see Figure 3), but both models told a similar story. In the obese condition, as attribution increased, false superior pity also increased, but the opposite occurred in the advanced age condition.

Figure 2

Interaction Between Attribution and Condition on Pity

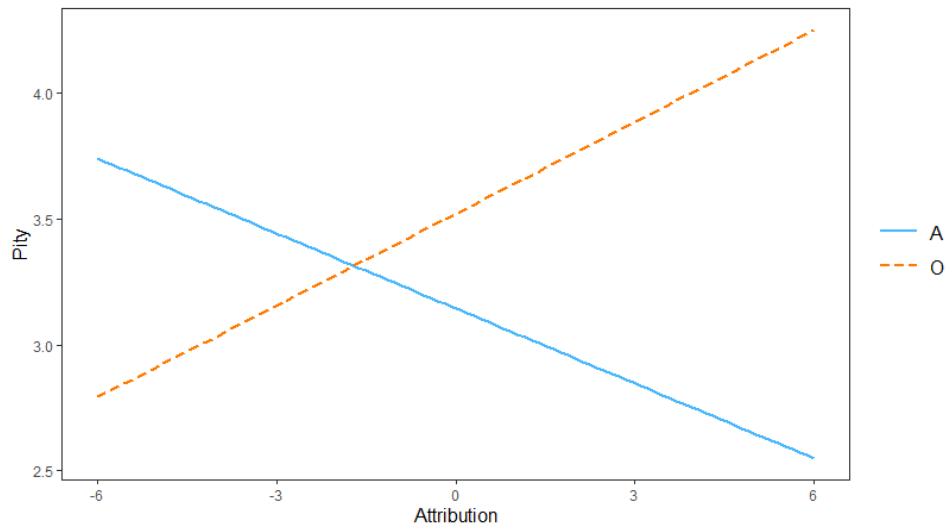
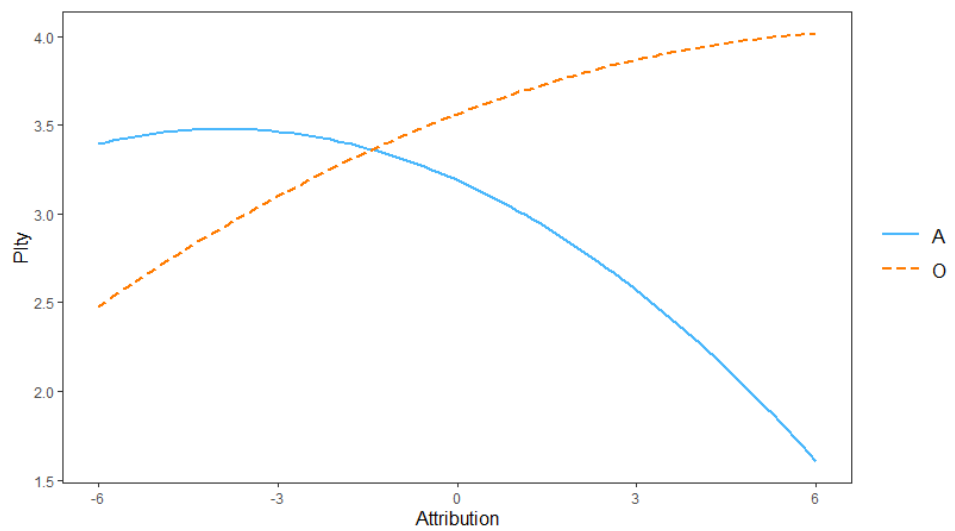


Figure 3

Interaction Between Attribution and Condition on Pity



Interaction Between Attribution and Condition on Pity

Social Attraction. The results of a model ($F(19, 571)=5.84, p<.001, R^2=0.16$) regressing social attraction ($EMM=5.21, se=0.07$) onto the interaction term indicative of

attribution moderating the influence of condition did not indicate a significant moderating effect ($sr^2 = 0.00$, $b = .07$, $se = 0.04$, $t = 1.70$, $p = 0.09$).

Hypothesis 4a was supported by the data, but 4b was not. Attribution had the anticipated influence on the relationship between pity and condition, but not social attraction and condition.

Hypothesis 4(c/d): Collective efficacy will moderate the influence of attribution conditions on pity(c) and social attraction(d).

Collective Efficacy

Each of the analyses below model the hypothesized influence of measured collective efficacy on the influence of being in the obese or aged condition on pity and social attraction.

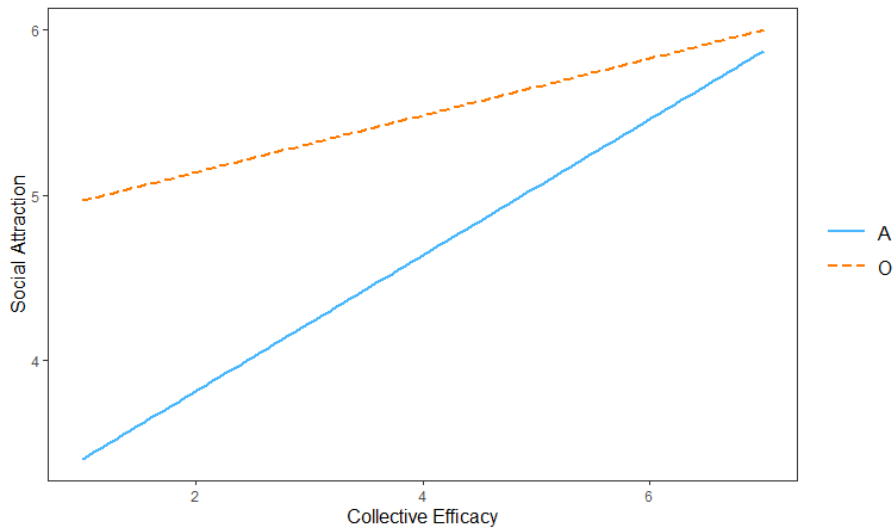
Pity. The results of a model ($F(21, 569) = 5.54$, $p < .001$, $R^2 = 0.17$) regressing pity ($EMM = 3.41$, $se = 0.09$) onto the interaction term indicative of collective efficacy moderating the influence of condition did not indicate a significant moderating effect ($sr^2 = 0.00$, $b = -0.08$, $se = 0.08$, $t = -1.07$, $p = 0.285$).

Hypothesis 4c was not supported.

Social Attraction. The results of a model ($F(21, 569) = 8.61$, $p < .001$, $R^2 = 0.24$) regressing social attraction ($EMM = 5.21$, $se = 0.07$) onto the interaction term indicative of collective efficacy moderating the influence of condition indicated a significant moderating effect ($sr^2 = 0.01$, $b = -0.20$, $se = 0.06$, $t = -3.22$, $p < .001$) (see also Figure 4). Given that the model showed moderate deviation from linearity, a model without covariates but with polynomial terms was also examined (see Figure 5). Both approaches told a similar story; as collective efficacy increased, so did social attraction, but the

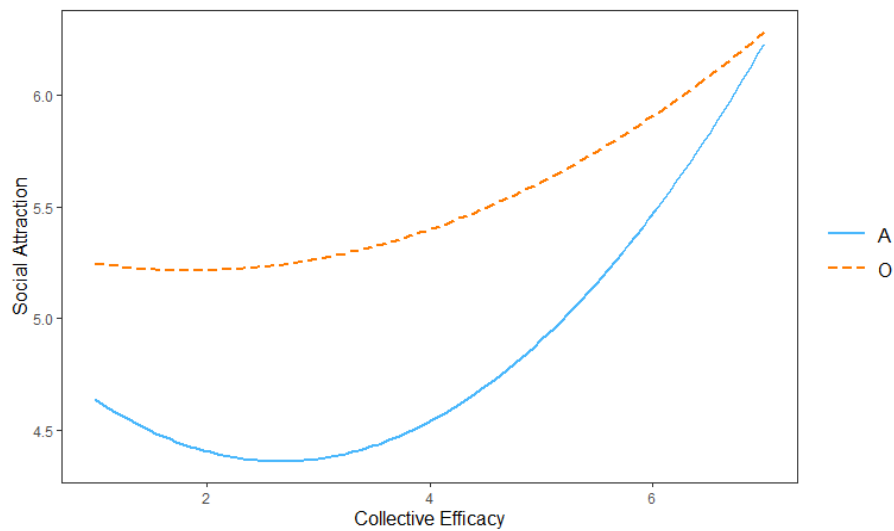
influence of collective efficacy was stronger in the advanced age or lower attribution condition. These data did not support the level of moderation described in the hypothesis, so hypothesis 4d received partial support.

Figure 4



Interaction Between Collective Efficacy and Condition on Social Attraction

Figure 5



Interaction Between Collective Efficacy and Condition on Social Attraction

The anticipated influence on the relationship between social attraction and condition was evidenced to a small degree, and there was no moderation effect on the relationship between condition and pity. Therefore, collective efficacy enhanced positive responses to the targets.

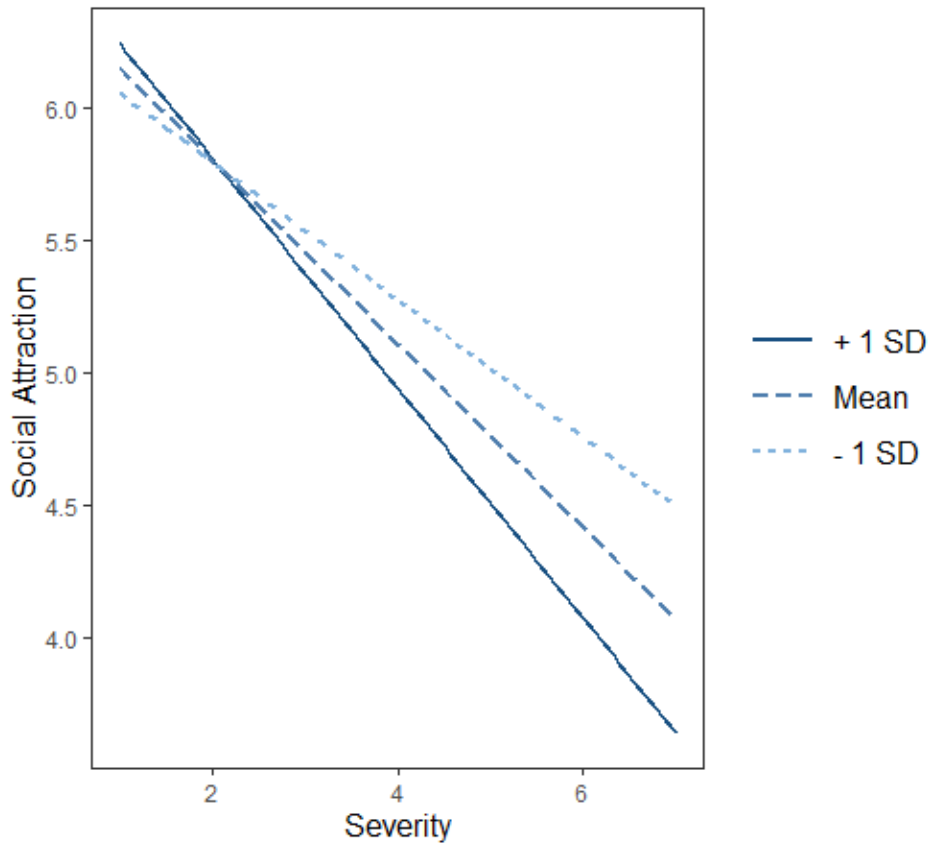
Similar to hypothesis 3, hypothesis 4 was partially supported.

Hypothesis 5 a/b/c: The measured severity of threat to self-trajectory will moderate the influence of plausibility of identity shift, such that: (a) if both severity and plausibility are low, then social attraction will be higher than when both are high; (b) if both severity and plausibility are low, then pity will be lower than when both are high; (c) if both severity and plausibility are low, then policy support will be lower than when both are high.

Social Attraction. The results of a model ($F(19, 571)=9.04, p<.001, R^2=0.23$) regressing social attraction ($EMM=5.20, se=0.07$) onto the interaction term indicative of threat severity moderating the influence of plausibility indicated a significant moderating effect ($sr^2= 0.01, b=-0.04, se=0.02, t=-2.82, p=0.005$). As Figure 6 indicates, when severity increased the influence of plausibility on social attraction became more apparent, such that at very high severity, lower plausibility predicted higher social attraction, but when severity was low plausibility was less integral to the prediction.

Figure 6

Interaction Between Severity and Plausibility on Social Attraction



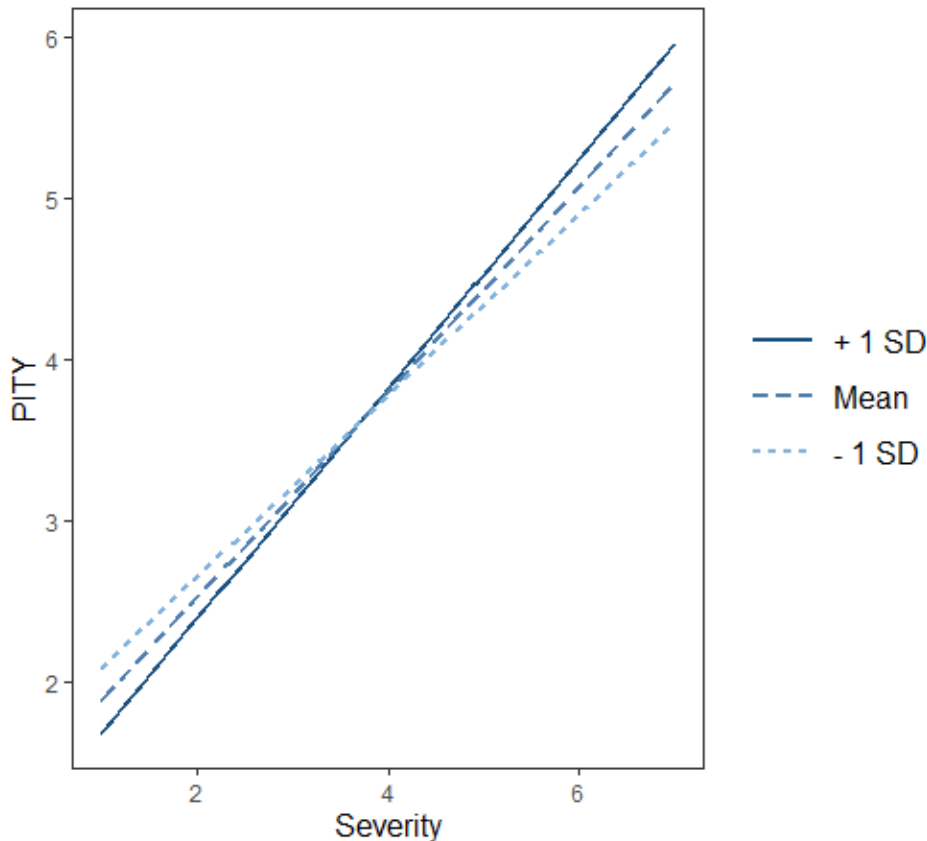
The results of this model supported hypothesis 5a; when both severity of threat to trajectory and plausibility of identity shift were low social attraction was higher when both were high.

False Superior Pity. The results of a model ($F(21, 569)=, p<.001, R^2=0.46$) regressing pity ($EMM=3.52, se=0.07$) onto the interaction term indicative of threat severity moderating the influence of plausibility indicated a significant moderating effect ($sr2=.01, b=.04, se=.02, t=2.37, p=.018$). Figure 7 indicated that when severity was lowest and plausibility was highest, pity was slightly lower than when plausibility was

one standard deviation above the mean. When severity was highest, the relationship changed such that high plausibility was associated with slightly more pity than low plausibility.

Figure 7

Interaction Between Severity and Plausibility on Pity



The dynamics this model supported suggest that once the target identity was perceived as more severe threat to self-trajectory, higher plausibility of identity shift also predicted more negative responses to the target. This model supported hypothesis 5b.

Policy Support. The results of a model ($F(21, 569)=6.86, p<.001, R^2=0.20$) regressing policy support ($EMM=5.49, se=0.09$) onto the interaction term did not indicate a significant moderating effect of severity on plausibility in predicting policy support

($sr^2 = 0.00$, $b = -0.03$, $se = 0.02$, $t = -1.40$, $p = 0.161$). Both linearity and skew complications occurred; however, the interaction remained insignificant even with an inverse log transformation and polynomial term added to the model. The model did not support hypothesis 5c.

Hypothesis 5 overall received partial support.

When both threat appraisal dimensions were high, social attraction was lower, and false superior pity was higher. The inverse was also true. However, the model predicting policy support failed to support the moderating influence of severity of trajectory on the relationship between plausibility of identity shift and policy support.

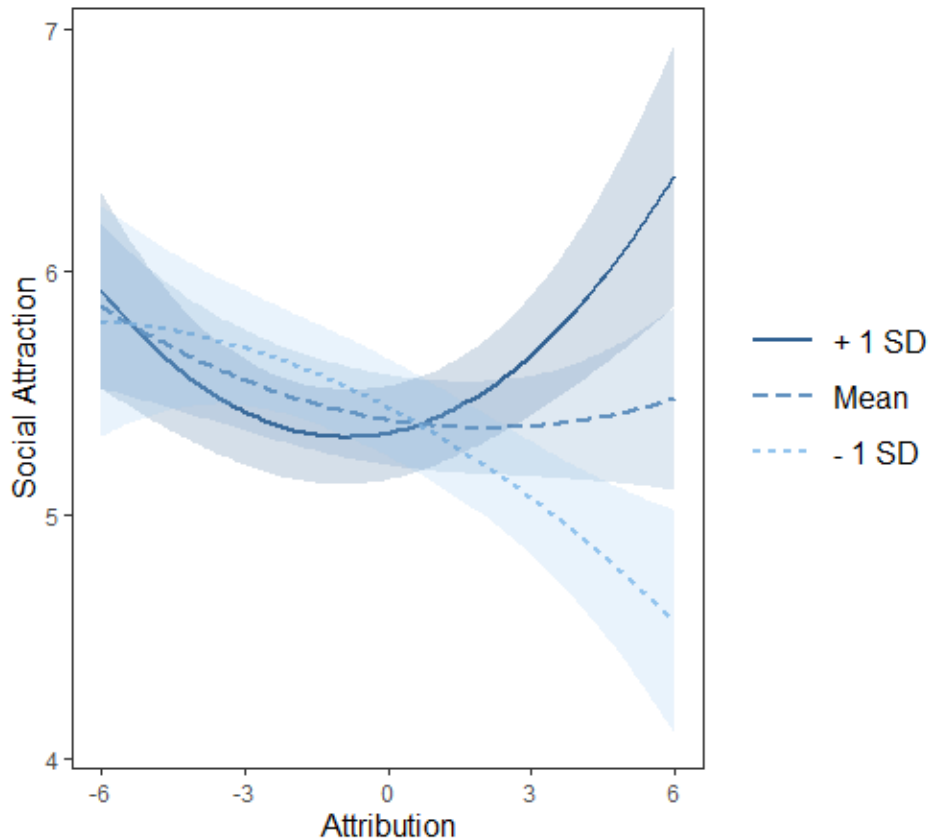
Hypothesis 6 a/b: The influence of measured attribution on social attraction will be moderated by pity such that when attribution and false superior pity are high, social attraction will be at its lowest (a). The influence of measured attribution will be moderated by sympathy such that when sympathy is high, and attribution is low, social attraction will be highest (b).

Whereas the interaction terms indicative of false superior pity moderating the influence of attribution were not significant ($sr^2 = 0.00$, $b = .02$, $se = .01$, $t = 1.65$, $p = .099$), a term indicative of sympathy moderating the influence of attribution on social attraction did reach significance ($sr^2 = 0.01$, $b = .03$, $se = .01$, $t = 2.67$, $p = .008$, $R^2 = .13$).

Tests of assumptions indicated some issues with linearity, so a polynomial term was added to the model to represent the data more closely (see Figure 8). As attribution of responsibility to the individual increased, differences in sympathy had a stronger influence on social attraction.

Figure 8

Interaction Between Attribution and Sympathy on Social Attraction



The results indicated partial support for hypothesis 6. Sympathy moderated the influence of attribution on social attraction, but false superior pity did not. This finding supported the interpretation that some of the inconsistencies in the attribution literature may represent participant differences in pity expression.

Hypothesis 7: Higher false superior pity will predict lower social attraction to members of a denigrated group.

This hypothesis is consistent with the predictions of Florian et al. (1999) in formulating the different expressions of pity and the warnings from Corrigan (2017) regarding the negative implications of pity.

Social attraction was regressed onto pity to evaluate the posited relationship between pity and social attraction. The model also included obese and advanced age condition, collective efficacy, attribution of responsibility to the individual, and the same covariates as the other models.

The model of social attraction regressed onto these variables ($M=5.32$, $SD=1.05$, $EMM=5.27$, $se=0.07$, $F(22, 568)=10.70$, $p<.001$, $R^2=0.29$) provided support for the hypothesis that false superior pity would predict lower social attraction ($sr^2=0.05$, $b=-0.21$, $se=0.03$, $t=-6.49$, $p<.001$). Participants in the advanced age condition reported lower social attraction ($EMM=4.91$, $se=0.08$) than those in the obese condition ($sr^2=0.09$, $EMM=5.63$, $se=.08$, $b=0.72$, $t=8.31$, $p<.001$). Notably, collective efficacy ($sr^2=0.05$) and age ($sr^2=.04$) predicted similar variance to pity.

Within the data subset by obese or advanced age stimuli, pity still negatively predicted social attraction with a slightly larger influence in the obese condition ($sr^2=0.05$) than in the advanced age condition ($sr^2=0.04$). Seeing the threat disparity text ($EMM=5.12$, $se=.09$) or not ($EMM=5.21$, $se=.11$) did not matter within the advanced age subset. Nor did it matter within the obese subset ($EMM_{Text}=5.43$, $se=0.11$; $EMM_{NoText}=5.36$, $se=0.11$).

This result may seem to logically conflict with the raw means that indicate the obese subset generally has higher social attraction and higher false superior pity; however, the results from hypothesis 4 indicate that higher perceived collective efficacy

associated with the obese group may be playing a role in boosting social attraction within that condition.

Hypothesis 7 was supported by the data and results of OLS regression.

Hypothesis 8: Higher false superior pity will predict lower support for policy that would benefit denigrated groups.

In a simple regression model, the relationship between pity and policy support was negative and significant in the full data set ($b=-0.09$, $se=0.04$, $t=-2.12$, $p=.034$, $sr^2=0.01$), but that significance was lost within each subset. Further, pity did not predict policy support when the upstream predictors were not included in the model using the full data set ($b=-0.02$, $se=0.04$, $t=.537$, $p=.591$, $sr^2=.00$). However, pity was predictive of policy support within the obese subset ($b=0.14$, $se=0.06$, $t=2.28$, $p=.024$, $sr^2=.02$), not the advanced age subset ($b=-0.01$, $se=0.05$, $t=-0.11$, $p=.910$, $sr^2=.00$) when covariates were included. Given the unexpected shift in signs and significance, further exploration suggested that race presented multicollinearity issues in the model alongside pity within the obese subset. There was no interaction between these terms in further exploration. Thus, the predictive value of pity for policy support in these contexts is unstable.

These results, in addition to those included in the mediation analyses, indicated that the influence of false superior pity expression on policy is likely dependent upon specific threat appraisals of the target.

Hypothesis 8 was not supported with covariates in the model.

Table 9 concludes the analysis and results section and summarizes the hypotheses and results.

Table 9*Summary of Hypotheses and Results*

Hypothesis	Outcome
Hypothesis 1: Threat appraisal is equally represented by the attribution of responsibility, the plausibility of identity shift, and the severity of the threat to self-trajectory.	Not supported.
Hypothesis 2a/b/c: False superior pity will mediate the relationship between each of the three threat perceptions and support for policy that would benefit denigrated groups.	H2a: Contingent support. Pity mediates the relationship between attribution and policy support within the obese condition only and only when covariates are included in the model. H2b: Supported with covariates in the model. H2c: Supported with covariates in the model.
Hypothesis 3: False superior pity will mediate the relationship between context condition (a) as well as between the increased threat condition (b) and policy support.	H3a: Not supported. H3b: Contingent support. Pity mediated the relationship between message condition and policy support within the obese stimuli subset only when the model included covariates.
Hypothesis 4(a/b/c/d): Attribution will moderate the influence of conditions on pity(a) and social attraction(b). Collective efficacy will moderate the influence of conditions on pity(c) and social attraction(d).	4a: Supported 4b: Not supported 4c: Not supported 4d: Supported
Hypothesis 5(a/b/c): The severity of the threat to self-trajectory will moderate the influence of plausibility of identity shift, such that: (a) if both severity and plausibility are low, then social attraction will be higher than when both are high; (b) if both severity and plausibility are low, then pity will be lower than when both are high; (c) if both severity and plausibility are low, then policy support will be lower than when both are high.	5a: Supported 5b: Supported 5c: Not Supported
Hypothesis 6(a/b): Measured attribution will be moderated by sympathy (a) such that social attraction will be highest when sympathy is high and attribution is low. When measured attribution and false superior pity (b) are high, social attraction will be at its lowest.	6a: Supported. 6b: Not supported.
H7: Higher false superior pity will predict lower social attraction to members of a denigrated group.	Supported.

Hypothesis	Outcome
Hypothesis 8: Higher false superior pity will predict lower support for policy that would benefit denigrated groups.	Contingent support. Pity predicts policy support only in a simple regression model.
Research Question 1: How do threat-related constructs of the severity of the threat to self-trajectory, plausibility of identity shift, and attribution of responsibility explain responses to denigrated targets relative to the EPPM and attribution theory propositions?	<p data-bbox="1024 394 1243 426">Interesting results:</p> <p data-bbox="1024 441 1500 636">Plausibility of identity shift and severity of the threat to self-trajectory help explain the relationship between images of these two denigrated groups and false superior pity as a negative affective response.</p> <p data-bbox="1024 651 1500 915">The severity of threat perception and plausibility of identity shift each predict social attraction in inverse directions. Further, the severity of the threat to self-trajectory and plausibility of identity shift mediate the relationship between condition and social attraction, and attribution does not.</p> <p data-bbox="1024 930 1500 1094">The results of a parallel mediation model of the indirect effect of text condition on pity indicate only threat severity operates as a mediator between the presence of text and pity</p>

Notes. Results of all models containing policy support as an outcome should be interpreted cautiously due to negative residual skew. This model issue was approached via bootstrapping in mediation analysis and inverse log transformation in multiple regression models.

The next section discusses the contributions gleaned from these findings and commentary on limitations and future directions for study.

Discussion

This study aimed to better understand target perceptions related specifically to denigrated groups whose characteristics are at once the targets of health messaging and stigma. The substantive ground chosen for this study included selecting two denigrated groups: people with obesity and people of advanced age. These groups were selected on the basis of shared target perceptions: high visibility, low politicization, and low entitativity (Kende & McGarty, 2019). Further, each of these groups has at least one fluid

boundary. In the case of people of advanced age, it is possible to become older. In the context of people with obesity demonstrated by high visible adiposity, it is possible to become more or less visibly adipose. This combination of low entitativity and fluid boundaries was important to explore whether perceptions of the plausibility of identity shift in response to denigrated targets is an appropriate operationalization of susceptibility (Witte, 1992) in the S-EPPM (Smith et al., 2007). It would be less meaningful to assess the possibility of becoming a member of a group with impenetrable boundaries.

The S-EPPM provides the theoretical framing for the hypothesized relationships examined throughout the study (Smith et al., 2007). Namely, whether the severity of the threat to self-trajectory and plausibility are separate mechanisms or dimensions of the same construct and how these perceptions influence downstream responses to representatives of denigrated, fluidly bounded groups. To influence the level of threat to self-trajectory presented by each group, a textual prime was presented to half the participants, indicating a disparity in severe outcomes of COVID-19 related to both groups. Participants also perceived the plausibility of identity shift differently depending on their evaluation of either a person with obesity or a person of advanced age.

The present study's findings did not support the idea that plausibility, severity, and attribution represent a single latent intergroup threat appraisal concept. This distinction among concepts is consistent with prior work examining the nature of the relationship between susceptibility and severity across fifty risk contexts (El-Toukhy, 2015). El-Toukhy (2015) found that when susceptibility is especially high, people tend to

experience diminished perceptions of severity; they describe this as an inverse relationship.

In the present study, the participants in the advanced age condition perceived the possibility as highly likely that they would become like the person pictured, and perceptions of the severity of that trajectory were roughly three on a 7-point Likert scale. Participants who responded to a target with obesity expressed lower perceived plausibility and severity close to a neutral mid-point. Also, within this study, when both plausibility and severity of the threat to self-trajectory are high, social attraction is lower, and pity is higher than when both or either is low. This finding indicates a multiplicative relationship.

In exploring the relationships between the presence or absence of a message that emphasized disparate severity of COVID-19 among people with obesity and people of advanced age, there was evidence of a positive influence on perceptions of the severity of the threat to self-trajectory. The finding that the threat to self-trajectory posed by becoming like a person with obesity increased in the presence of the disparity text suggests in this context; that the text has the undesirable effect of increasing stigmatizing attitudes. Iles et al. (2017) found that compared to non-stigmatizing PSAs, PSAs that stigmatize eating disorders resulted in less willingness to interact with people who exhibit behavior related to eating disorders. In that case, the content did not generally influence attitudes toward people with eating disorders. Here the presence of disparity text did not influence social attraction either.

Within the context of people of advanced age, the disparity message demonstrated null effects on the severity of the threat to self-trajectory and false superior pity. People

are probably desensitized at this stage in the pandemic (Cho & Salmon, 2007) to information about increased risk by age. So et al. (2017) operationalize message fatigue as being burnt out or tired of hearing about a particular issue or an issue framed in a particular way. Kim and So (2018) argue that message fatigue may lead to a lack of effectively processing of the intended message elements. For example, Kim and So (2018) examined how people whose weight by height qualified them as overweight or obese responded to common behavioral advice regarding weight loss. They found that pre-existing message fatigue prompted inattentiveness, reducing the intention to comply with the advice. In this study, people may have been desensitized to the elevated risks faced by people of advanced age.

In March and May of 2020, Abel et al. (2021) found that debiasing people's overestimation of risk resulted in reduced viewership of a video about protecting people of advanced age. However, correcting an underestimation of risk to the elderly brought viewership back to baseline. Although the advanced age context in this study did not demonstrate similar effects, the obesity condition provided similar findings. Providing an accurate statement of increased risk and then responding to a person with obesity prompted a more negative response than evaluating the target without the disparity information. Abel et al. (2021) argued that debiasing perceptions of personal risk – when they are overestimated – do not demonstrate any advantage from a public health standpoint within the context of COVID-19. The findings of this study support that statement.

Lastly, the potential for false superior pity to occupy a similar space to that which fear occupies in EPPM was examined. Pity was selected due to its presence across

multiple theories of response to denigrated targets (e.g., Cottrell & Neuberg, 2005; Cuddy et al., 2007; Weiner et al., 1982) and inconsistent findings and conceptualizations across this literature (e.g., Boleyn–Fitzgerald, 2003; Florian et al., 1999; Lantos et al., 2020) which provided an opportunity to test a more nuanced and specific conceptualization of false superior pity in this context. Various scholars working both in EPPM (e.g., Cho & Salmon, 2006; Smith et al., 2007; So, 2013; Witte & Allen, 2000) and with the dimensions of danger appraisal (El-Toukhy, 2015; Walpole & Wilson, 2021) suggest the integration of emotional processes and responses into these models. This study establishes that false superior pity constitutes a negative response and that response functions along some of the S-EPPM theorized pathways.

Pity mediated the influence of attribution within the obese subset. In contrast, it mediated the relationships between plausibility and severity with policy support across contexts if covariates were included in the model. This finding supports the notion that pity may be an applicable affective pathway to consider in S-EPPM. In comparison, sympathy may be better suited to attribution theory predictions of positive response to low attribution groups. However, these findings are based on measured constructs, and the policy variable presented some instability. Also, in the obese context, the influence of the disparity text on policy support was mediated by pity when covariates were included. So, it seems the association between people with obesity and COVID-19 severity predicts *more* support, and this influence, to a very small degree, operates through a pity response.

The S-EPPM argues that negative responses to groups should be mitigated by collective efficacy. In this case, collective efficacy did not moderate the influence of advanced age or obese conditions on pity. However, it did moderate the influence of

these conditions on social attraction. The influence of collective efficacy was stronger in the advanced age condition. In the advanced age context, low collective efficacy predicted much lower social attraction than high collective efficacy. The influence of collective efficacy made a less pronounced impact in the obese context. These findings suggest collective efficacy may amplify the positive responses but may not attenuate negative responses.

This study contributes to the extension of the S-EPPM by examining the diverse dynamics between operationalizations of severity and susceptibility. Further, relationships among plausibility of identity shift, the severity of the risk to self-trajectory, and false superior pity suggest this emotion should be considered for contribution to Smith et al.'s (2007) stigma-oriented adaptation of the EPPM.

Limitations and Future Directions

Though this study and its findings have merit, it is not without limitations. Firstly, only one pity expression was fully assessed. This choice neglected a more nuanced understanding of both compassionate caring and passive identification type expressions. Although providing more than a single-item assessment contributes to understanding how pity influences the desire for proximity to denigrated targets, it is still a limited perspective. Collecting responses to a full-scale of compassion-oriented pity and passive identification items to compare with these false superior items would be an improvement. These assessments would better capture how different targets may engender different pity expressions and how those expressions respond to threat appraisal and efficacy perceptions.

On the topic of measurement, the policy outcome presented several issues exacerbated by the study design in this case. Policy support is often contingent upon pre-existing and difficult-to-shift values and beliefs (Cannon & Niederdeppe, 2022). Despite efforts to select policies in each context that shared some core attribute, they were indeed different items intended to measure the same positive response outcome between groups. While skewed responses presented problems in baseline models, the relationships among psychographic characteristics and policy support complicated larger models. Fortunately, social attraction provided an alternative measure of positive response to targets within the study. A design element that would have improved interpretation of the influence of stimuli on policy would have been two control groups, one for each context, or a within-subject design with enough groups to accommodate a Williams Latin square randomization strategy. That strategy would have protected the findings against order effects while also allowing for psychographic characteristics to be better accounted for in analyses nested by the participant.

Although this study included experimental manipulations, the text was more effective at increasing threat severity in one group than the other. The contexts may have differed based on several variables that were not measured or intended within the study. Part of this difference may have been the relative access to and consistent reminder of disparity in response to COVID-19 among people of advanced age (Barrett et al., 2021; Martens et al., 2004). Statistics related to severe outcomes are routinely presented by age categorization and the early and continued reports of issues at nursing homes (Miller et al., 2021) may have exacerbated perceptions of this group as more entitative – and effectively homogenous in their risk.

Additionally, though target groups influenced multiple outcomes, it is difficult to ascertain the specific causal mechanisms at work due to the multitude of possible contextual differences in assessing the two targets. However, parallel mediation supports both plausibility of identity shift and severity of the threat to self-trajectory as strong explanatory contenders in explaining supportive responses to people with obesity and people of advanced age.

The limited operationalization of susceptibility to the *plausibility of identity shift*, where the identity shift itself represents the negative outcome, favors capturing broader intergroup dynamics over the nuance of connecting specific health and risk perceptions to prejudice. Prior operationalization of susceptibility examined the construct relative to an acute health or risk outcome. For example, in Smith et al.'s (2007) study, susceptibility was associated with AIDS, not with becoming an AIDS orphan. The operationalization that centers the identity itself as the outcome may provide a stronger orientation with other theories and frameworks of stigma and prejudice but limits the deeper understanding of which associated health outcomes, if any, fuel prejudiced response to people with obesity and people of advanced age.

A formal test manipulating the plausibility of identity shift within a single context, holding all other message elements constant, would provide a firmer ground for adding this construct dimension to models of target perception and the S-EPPM. For example, adding a vignette that emphasizes how easy it is to increase adiposity and the multitude of challenges faced on the way to fat reduction (McPhail & Orsini, 2021; Pausé, 2017) would better isolate the influence of plausibility of identity shift within a single context. Examining multiple contexts provides further understanding of the

boundaries of the effectiveness of plausibility of identity shift on responses to denigrated groups; however, as designed, this approach lacks precision. Future work should consider applying the more direct manipulation described above across multiple contexts with fluid boundaries, including smokers, people with addiction disorders, people who have been incarcerated, and people who refuse recommended vaccinations.

Conclusion

This study provides preliminary evidence that the S-EPPM could be extended by including false superior pity as mediator between threat appraisal and responses to denigrated groups with fluid boundaries. Plausibility of identity shift and severity of threat to self-trajectory predict false superior pity. This study also provides additional challenges to the role of attribution in provoking response to denigrated targets.

CHAPTER 3: STUDY 2: EXAMINING THE TRANSFERENCE OF DISPARITY INFORMATION TO RISK ASSESSMENT AND UNINTENDED EFFECTS

The COVID-19 pandemic has taken over one million lives in the United States (CDC, 2022). Morbidity data also indicate disparate outcomes based on comorbidities often associated with age and obesity (e.g., Daoust, 2020; Dicker et al., 2020). Due to the nature of virus transmission, everyone must depend on the compliance of others with recommended mitigation protocols to avoid contracting COVID-19. However, these two groups already faced an uphill battle in garnering altruism. Both anti-fat bias and ageism had been widely documented before the pandemic (e.g., Ayalon & Tesch-Römer, 2017; Caroli & Sagone, 2013; Martens et al., 2004; Nelson, 2005; O'Brien et al., 2013; Puhl et al., 2013; R. Puhl & Brownell, 2001; R. M. Puhl et al., 2007; R. M. Puhl & Brownell, 2003). In both cases, bias can extend to workplace discrimination, lower cognitive ability expectations, and less adequate healthcare (e.g., Brochu & Esses, 2009; Chang et al., 2020; O'Brien et al., 2013). There is also evidence the pandemic has exacerbated prejudice against these groups (Ambwani et al., 2021; Ayalon et al., 2021; Blundell et al., 2020; Cava et al., 2021; Cohn-Schwartz & Ayalon, 2021; Dutta et al., 2021). Given this exacerbation, this study examines the possibility that disparity information emphasizing two denigrated groups may transfer to non-compliance with mitigation protocol.

The approach to this problem was a secondary data analysis that tested the presence or absence of a disparity message and visual primes of either obesity or advanced age on responses to images of a younger, leaner severe COVID-19 patient. This study data for this experiment were gathered simultaneously with data for a separate study that considered the potential for adapted stigma-oriented extended parallel process

model (Smith et al., 2007; Witte, 1992) constructs to explain affective and social responses to people of advanced age and people with obesity. These groups represent denigrated groups whose identities overlap with perceptions of health risk (not limited to COVID-19) and whose boundaries are fluid. In that experiment, the presence of the disparity text increased perceptions that becoming like the person would negatively impact self-trajectory and increased false superior pity toward targets only within the context of obesity, not advanced age. The current study examined how the disparity information, paired with either images and evaluation of people with obesity or people of advanced age, influenced perceptions of threat associated with becoming a severe COVID-19 patient. The influence of conditions on intentions to follow mitigation protocol and support policy was also assessed as indicators of an overcorrection of lesser risk. In this study, a control condition that did not view disparity message nor evaluate a denigrated group member served as a comparison group that will indicate the overall effect of participating in the first experiment on outcome variables. In the sections below, I argue for examining the influence of disparity messages through the lens of unintended effects.

Unintended Effects

Cho and Salmon (2007) provide eleven categories of unintended effects of health communication campaigns. These categories vary by whether they transcend the intended effect level, move an unintended audience, are content-specific, desirable, and present immediately or over time. This paper was concerned with content-specific, unfavorable impacts on the general audiences in two categories obfuscation and boomerang effect. Obfuscation describes confusion associated with messaging. For example, Green et al.

(2021) found that in the context of COVID-19 immunity, participants who remained confused about the validity of claims of infection based on the introduction of immunity passport concepts erred on the side of intentional non-compliance with protocol, whereas those who received explicit advice to the contrary intended to comply. Boomerang effects describe when the presence of treatment makes matters worse than having not intervened at all (Byrne & Hart, 2009; Cho & Salmon, 2007).

Byrne and Hart (2009) presented a framework of boomerang effects that synthesizes several approaches to unintended effects from theorists across disciplines from social psychology to economics and communication. The framework contends that either intended components of a message are processed, or unintended components are processed. Then depending on the processed component, a variety of things can go wrong. If the appropriate component moved into processing, the audience may exhibit ironic processing, fear control, or consider a misguided cost/benefit analysis. This analysis can lead to the decision that the behavior is somehow still worth it despite the risks. If the faulty component is selected for processing, related notions (e.g., violence) may be primed, or the audience generalizes from the wrong information. The framework has been applied to examine reactance (e.g., Betsch & Böhm, 2016; Garrett & Poulsen, 2019; Sprengholz et al., 2021), risks of descriptive norms (Kuang et al., 2020), and to explain unexpected findings related to unintentional priming (Bickham & Slaby, 2012; Choma et al., 2007; Pan & Peña, 2021; Ramasubramanian & Oliver, 2007). Disparity information may unintentionally prime feelings of superiority and invulnerability for people outside of that group (Van et al., 2020). This possibility would be indicated by an association between the disparity message and lack of intention to comply with protocols.

Multiple Stigma

Unfortunately, the disparate outcomes of COVID-19 associated with people of advanced age and people with obesity groups and covered heavily by the media (Brookes, 2021; Meisner, 2021; Zhang & Liu, 2021) may lead to a convergence of multiple stigmas. In both these cases, the issue of intertwined notions of body size and age (Meisner, 2021) with the disease may be exacerbated by specifying their heightened vulnerability to COVID-19. Guttman and Lev (2021) discuss several ethical issues they argued should be considered as communication practices evolve throughout the COVID-19 pandemic and in anticipation of other large-scale health crises. Among their concerns was ageism, associated with the emphasis on the disparate risk of severe outcomes among people of advanced age. They argued that an unintended effect of communicating this information was a callous backlash regarding the resource advantage to younger people in exchange for a loss of life among older people.

Similarly, Monaghan (2021) documented how vitriol against fat bodies moved from a critique of a single blog by a fat studies professor to the degradation of the entire field of study and its social justice aims. Comments on an article responding to the blog post include wishes that “[fat people] all just die” (Monaghan, 2021, p.12). In both cases, the relationship between the virus and the denigrated group became the puns of jokes. References to lockdown-related weight gain referred to as the “COVID-19,” and the virus referred to as the “Boomer Remover” exemplify the flippant response to serious risk among these groups. These findings suggest that risks to people of advanced age and people with obesity may not only be dismissed as a reason to comply but that this

resistance may exhibit through worsened intention than when this information was not provided.

Adverse Effects of Disparity Information

Peinado et al. (2020) described potential unintended, adverse effects of approaches to communicating about disparities in the context of HIV, which can also be applied to COVID-19. One of the unintended consequences of disparity messages included reinforcing negative stereotypes and stigma related to the emphasis on the association between an attribute, like the prevalence of a disease, and a specific group via social comparison framing. The present study examined the possibility that disparity information regarding the increased risk of severe COVID-19 among people of advanced age and people with obesity is an example of unintended malinformation (Hansson et al., 2021). This category of information was derived from Hansson et al.'s (2021) qualitative analysis of 98 small case studies of media in Europe. Malinformation refers to legitimate content that inflicts harm, including prejudice towards denigrated groups. The pandemic has influenced anti-fat bias and ageism, so arguably, information regarding increased susceptibility among these groups may be related to this phenomenon of malinformation. If this is the case, then the presence of disparity information should predict lesser intention to comply with mitigation protocol and support mitigation policy, which would protect these groups.

Thus even if the appropriate component, in this case, the disparity information, is moved into processing, the audience may consider a misguided cost/benefit type analysis deciding that despite the risks, the behavior is somehow still worth it (Byrne & Hart,

2009). In this case, *there may be evidence of an optimistic bias via the decreased perception of the plausibility of having severe COVID-19 among participants.*

Optimism Bias

The optimism bias hypothesis (Weinstein, 1980, 1982) refers to the idea that people perceive themselves as less at risk for negative outcomes than others, even when they are similar to them. The influence of optimistic bias on health and risk is somewhat ambiguous. Hajek and König, (2019) found that self-efficacy and optimism ease some of the negative impacts of drawing negative health comparisons on general well-being. McKenna (1993) described an illusion of control over outcomes that helps protect a sense of superiority. However, this bias or illusion can also lead to maladaptive risk behavior. For example, Gassen et al. (2021) found that among participants in a Texas county, those with a higher risk of severe outcomes did not behave any differently than those at lower risk partly because they did not believe they were at higher risk of infection. Anti-ageism advocates from the British Society of Gerontology argued that ageism is dangerous. This prejudice undermined the sense of risk for people not of advanced age and may have made them more likely to take risks during the pandemic (Meisner, 2021).

Liu and Lo (2014) examined the influence of media exposure about the H1N1 swine flu pandemic on the third-person effect. The third-person effect is similar to optimism bias, except that it is specific to the impact of media (Gunther & Mundy, 1993). It states that others will be more influenced by negative or misleading media than oneself (Gunther & Mundy, 1993). However, they also considered how that response to media influences perceived impact and intentions to mitigate risk. Their findings indicated that the third-person effect regarding coverage of the H1N1 swine flu pandemic extended to

perceptions of risk surrounding the illness. The higher third-person perception was associated with lower personal risk perception (i.e., optimism bias) and lower intention to mitigate risk personally. Thus, *the disparity message in the present study will be associated with lower plausibility of becoming a severe COVID-19 patient and lower intention to mitigate risk than conditions without the message.* Additionally, Liu and Niederdeppe (2020) found that overestimating the prevalence of health issues (e.g., HIV and diabetes) was associated with higher support for related policies. Thus, *if participants use the disparity message to conclude they are at lesser risk, emphasizing risk to other groups should be associated with lower policy support.*

Summary of Hypotheses

The hypotheses tested within this study are summarized below. The logic supporting the first hypothesis was that participants would interpret disparity information in direct contrast to their own risk (Reyna et al., 2009).

Hypothesis 1: *Compared with the no disparity message condition, the disparity message will decrease the plausibility of becoming a severe COVID-19 patient.*

The logic supporting the second hypothesis was that associating COVID-19 with a specific group places the patient in the same broader COVID-19 group as people of advanced age and people with obesity.

Hypothesis 2: *Compared with the no disparity message condition, the disparity message will increase the perceived severity of becoming a severe COVID-19 patient.*

A misinterpretation of less risk with no risk (Byrne & Hart, 2009; Cho & Salmon, 2007; R. Green et al., 2021; Van et al., 2020) would lead to less intention to comply with the COVID-19 mitigation protocol.

***Hypothesis 3:** Compared with the no disparity message condition, the disparity message will decrease intentions to comply with behavioral mitigation protocol.*

For individuals not at higher risk of severe outcomes, a public policy designed to mitigate the spread of COVID-19 may not be perceived as beneficial. It may even be interpreted as an infringement on rights with little personal benefit (e.g., Sprengholz et al., 2021).

***Hypothesis 4:** Compared with the no disparity message condition, the disparity message will decrease support for COVID-19 mitigation policies.*

The disparity information may have been misinterpreted to mean that people outside those groups are better at protecting themselves, translating to higher self-efficacy to enact mitigation protocols.

***Hypothesis 5:** Compared with the no disparity message condition, the disparity message will increase self-efficacy to mitigate COVID-19 risk.*

Method

The discussion of the research method includes an overview of the study design and participants.

Design

Secondary analysis of a 2 (Disparity Emphasis: Message Specifying Highly Vulnerable Groups versus No Message) by 2 (Denigrated Group Imagery: People with High Visible Adiposity or People of Advanced Age) plus No Disparity message, No Vulnerable Group Control group design. Additionally, the sample was stratified by race such that half the sample reported identifying as Black, African American, and half reported identifying as white.

Data for this study were collected simultaneously with data used in a separate experiment. That experiment examined the influence of information about the severity of COVID-19 infection among two vulnerable and potentially denigrated groups – people with obesity and people of advanced age – on perceptions of either a target with obesity or a target of advanced age. The previous study limited its analyses to constructs measured before exposure to images of a patient with severe COVID-19. That study examined explicit biases in response to people of advanced age and people with obesity. The other goal of that study was to understand whether the plausibility of identity shift, the severity of the threat to self-trajectory, and false superior pity operate similarly to the constructs of severity, susceptibility, and fear in EPPM (Witte, 1992). The findings of that study support the idea that the proposed threat appraisals predict both positive and negative responses to members of fluidly bounded, denigrated groups.

The present investigation endeavored to distinguish the impact of disparity information on responses to a younger, leaner patient with COVID-19 to see if disparity messages negatively influenced those responses. Further, the analyses should have revealed if exposure to disparity information backfires and reduces intention to follow mitigation protocol even after viewing images of a younger, not visibly adipose person with the illness. Lastly, multiple group contexts provided the opportunity to examine if disparity information influenced these outcomes differently when associated with a visual prime of people of advanced age or with obesity. If responses differed between contexts, that would have suggested a decreased role of disparity information alone.

Participants

The following section describes the participant recruitment process and demographic and psychographic characteristics of the study sample.

Participant Recruitment

Participants (N=804) were recruited via the opt-in Prolific Academic platform. The pre-screening tools selected participants who reported identifying as African American, Black, or white to receive a link to a survey with a stimulus designed to appear racially similar; this also allowed for a stratified sample – the impact of which will be explored in a separate paper. Each participant received compensation of \$3.96 for their participation in the study.

The hypotheses were framed so that the disparity message did not indicate the participant was at higher risk for severe outcomes. Thus, the analytic sample (N=626) was limited to individuals identifying as under the age of 65 and with a body size less than seven (7) on Stunkard's visual scale (Parzer et al., 2021; Stunkard et al., 1983). The most common ideal selected was type 4, with 43.5% of participants making this selection.

Participant Characteristics

The demographic and psychographic characteristics of the sample are included in Table 10 below. Chi-square analyses indicated that the characteristics listed below did not differ significantly by experimental groups.

Table 10*Demographics – Categorical Participant Characteristics*

Characteristic	Level of Characteristic	N	Proportion
Gender Identity	Woman	331	52.9
	Man	283	45.2
	Trans Woman	1	0.2
	Trans Man	1	0.2
	Trans	0	0.0
	Non-binary	9	1.4
	Genderqueer	0	0.0
	Prefer not to answer	1	0.2
Education Level	Less than High School	4	0.6
	High School	75	12.0
	Some College, no certification	137	21.9
	Associates Degree	55	8.8
	Technical School Degree or Certification	18	2.9
	Bachelors' Degree	238	38.0
	Masters' Degree	85	13.6
	Advanced Professional Degree	5	0.8
	Doctoral Degree	8	1.3
	No Response	1	0.2
Political Party	Democrat	318	50.8
	Republican	87	13.9
	Independent	193	30.8
	Green Party	6	1.0
	Working Families Party	2	0.3
	Other	19	3.0
	No Response	1	0.2
Relationship Status	Single	251	40.1
	Dating Exclusively	68	10.9

Characteristic	Level of Characteristic	N	Proportion
	Dating Casually	26	4.2
	Domestically Partnered	42	7.8
	Married	199	31.8
	Separated	6	1.0
	Divorced	27	4.3
	Widowed	5	0.8
	Other	2	0.3
Parental Status	No Children	418	66.8
	Children 0-4 years only	41	6.5
	Children 5-18 years only	105	16.8
	Mixed Age Children	61	9.7
	No response	1	0.2
Employment	Employed full-time (36+ hours)	315	50.3
	Employed full-time, full-time student	1	0.2
	Employed full-time, part-time student	7	1.1
	Employed full-time, self-employed	8	1.3
	Employed part-time (less than 36 hours)	68	10.9
	Employed part-time, full-time student	18	2.9
	Employed part-time, part-time Student	2	0.3
	Employed part-time, self-employed	12	1.9
	Full-time student	31	5.0
	Part-time student	6	1.0
	Part-time home/family caretaker (unpaid)	9	1.4
	Part-time home/family caretaker(unpaid), self-	1	0.2

Characteristic	Level of Characteristic	N	Proportion
	employed		
	Full-time home family caretaker (unpaid)	58	9.2
	Full-time home family caretaker (unpaid), Full-time student	1	0.2
	Full-time home/family caretaker (unpaid), self-employed	5	0.8
	Full-time home/family caretaker (unpaid), part-time employed, self-employed	1	0.2
	Self-employed	74	11.8
	No Response	8	1.3
Ethnicity	Hispanic/Latinx/o/a/e	8	1.3
	Hispanic not Latinx/o/a/e	17	2.7
	Latinx/o/a/e not Hispanic	1	0.2
	Neither Hispanic nor Latinx/o/a/e	599	95.7
	No Response	1	0.2
Race	African American, Black exclusively	302	48.2
	African American, Black and Native Hawaiian, or other Pacific Islander	1	0.1
	African American, Black and Asian	2	0.3
	African American, Black, and American Indian or Alaskan Native	4	0.6
	African American, Black, and white	6	1.0
	White exclusively	299	47.8
	White and Native Hawaiian or other Pacific Islander	0	0.0
	White and Asian	1	0.2

Characteristic	Level of Characteristic	N	Proportion	
	White and American Indian or Alaskan Native	0	0.0	
	American India or Alaskan Native	1	0.2	
	Asian	3	0.5	
	Native Hawaiian or other Pacific Islander	1	0.2	
	Other, other mixed race	3	0.5	
	No Response	1	0.2	
	Body Type	1	8	1.3
		2	61	9.7
		3	102	16.3
		4	174	27.8
5		153	14.4	
6		128	20.4	
7		0	0.0	
8		0	0.0	
9		0	0.0	
	No Response	0	0.0	

Notes: Chi2 tests indicate that demographics did not problematically influence randomization into condition.

Table 11 includes the continuous measures of participant characteristics.

Table 11*Continuous Measures of Participant Characteristics*

Characteristic	Mean(SD)	se	Median
Income	76204.81(141119.95)	5699.78	56500.00
Age	37(12)	0.47	34
Political Ideology (n=800) [1= Extremely Conservative, 7= Extremely Liberal]	4.82(1.65)	0.07	5
Difference between Personal and Ideal Body Type (n=800) (- 8 to +8)	0.59(1.30)	0.05	1
Believed Prevalence of Obesity	46.29(17.15)	0.69	43
Believed Prevalence of Advanced Age	39.42(17.60)	0.70	35

Stimuli

The stimuli included imagery of either a person with obesity or of advanced age, each presented immediately or following a textual message describing the disparate impact of COVID-19 infection on people within these groups. The second set of stimuli included images of a severely ill COVID-19 patient, except for the control group, which responded immediately to the COVID-19 images and then to the images of the person with obesity. The details of these stimuli are described in more detail below.

Risk Disparity

The textual element included a brief paragraph describing the increased risk of severe outcomes of COVID-19 infection among people with obesity and people of

advanced age (Ebinger et al., 2020; Gallo Marin et al., 2021). The intention was to heighten awareness of the disparity in risk to these specific groups.

Multiple Contexts

Generally, the visual manipulation of vulnerable groups was based on those groups listed by the CDC as more vulnerable to severe COVID-19 infections and identifiable by what Smith (2007) would describe as clear marks or visual cues to groups status. These images included either a person with obesity (high visible adiposity) or a person of advanced age (with wrinkles and prominent facial features).

The stimuli were phenotypically similar to the participants' reported race and gender. While this similarity meant that different participants saw different images, it avoids the issue of capturing unintentional forms of bias, including racism and sexism (Himmelstein et al., 2017; Latner et al., 2005). The people in these images did not appear ill. The purpose of using healthy imagery of members of these groups was to capture the impact of bias towards each of these groups due to the COVID-19 association, which was expected to provide evidence of multiple stigma, the topic of a separate paper.

Within the present study, examining the influence of the two contexts provided the opportunity for improved validity. Suppose within and across the contexts of people of advanced age and people with obesity, the disparity message functioned similarly. In that case, there would have been stronger evidence of the influence of disparity information itself. If the responses varied by context, that evidence would support responses to the COVID-19 patient indicated different levels of implicit bias toward people of advanced age and people with obesity in the context of the COVID-19 pandemic.

Challenging the Optimism Bias

The second stimulus in four conditions (and the first in control) included a young adult with low visible adiposity in an ICU. This image was selected to examine how current knowledge of the disparate outcomes of COVID-19 infection impacted response to a non-vulnerable target joining the severe illness group. The picture superiority effect (McBride & Anne Doshier, 2002) informed the decision to use an image exemplar of a young adult with low adiposity. The image indicated that this person was not a member of the groups previously listed as at higher risk and was more similar to the participant. This choice aimed to capture whether perceptions of this target shift due to association with a denigrated group provided by the disparity message and evaluate imagery of one of the two denigrated groups.

In a small manipulation check (n=30), this imagery was labeled as sick or ill but not COVID-19 related. Thus, questions related to this imagery indicated the person has COVID-19, as these items were intended for a more substantive and practical application of the knowledge gleaned across studies. By specifying “this person with severe COVID-19,” the hope was to avoid capturing more general notions of pathogen avoidance.

Procedure

First, participants provided electronic consent by selecting “Yes” in response to having read the consent letter and having a desire to participate. The study procedures included randomized exposure to the disparity-oriented text, then randomized exposure to an image of either a target with obesity (high attribution) or of advanced age (low attribution) at work. Respondents briefly described the person in the visual stimulus. Then, participants responded to various measures to indicate their level of threat,

collective efficacy to help, pity, affective response, social attraction, and helping intentions toward the target. Next, they responded with their level of support for policies that would benefit or restrict the target group. Then, they answered personal levels of efficacy, response efficacy, and intention to behave in ways that would avoid weight gain and nutrition-related disease (obesity group) or visible signs of aging and cognitive decline (advanced age group).

This study examined a subsequent section of the larger experiment. Following the evaluation of the obese or advanced age targets, the next section of the instrument included a visible example of a person with COVID-19 who was neither of advanced age nor obesity. Participants responded to items that measured threat appraisal, collective efficacy, pity toward, affective response, and helping intentions toward the target. Then the participants reported their support or opposition to various COVID-19 mitigation policies and their sense of self-efficacy, response efficacy, and intention to comply with mitigating behaviors.

Last, all groups responded to items related to perceptions of vulnerability based on group membership, perceptions of increased risk from severe COVID-19 to people of advanced age and with obesity, political efficacy, close social contact, body type, and additional demographics.

To control for influences beyond that of the disparity message, participants in all the treatment groups responded to the same questions. If these items influenced later responses, all participants would have experienced the same degree of confound, as long as comparisons are between disparity message treatment groups within the same vulnerable group context.

The potential impact of exposure to the different group contexts is treated by examining subsample by context. The control condition provides a comparison that captures the influence of the entire experiment, so in these comparisons, the influence of the disparity text alone would not be distinguishable from the influence of the rest of the prior experimental measures, but it does provide clarity on the possibility of implicit bias

Measures

Unless otherwise noted, measures were assessed on 7-point Likert-type scales increasing with the level of agreement. The descriptive characteristics, including Cronbach's alphas, are listed in Table 3 at the start of the 'Analysis and Results' section.

Social Attraction

Social attraction to the two types of denigrated targets was measured using an adapted version of the social dimension of McCroskey and McCain's (1974) scale of interpersonal attraction. This measure included items such as, "The person pictured could be a friend of mine," rated on a seven-point Likert scale.

Threat Severity

The items used to measure threat severity in the context of COVID-19 requested a level of agreement with statements regarding whether becoming like the patient with severe COVID-19 would be the worst thing that could happen to them and whether it would be a death sentence based on Smith et al.'s (2007) adaptation of measures from the EPPM (Witte, 1992).

Plausibility of Identity Shift

This construct was measured with three items assessing the belief that the participant would likely become like the person pictured, also based on EPPM (Witte, 1992).

False Superior Pity

False superior pity was measured with a shortened, four-item version of Florian et al.'s (1999) scale that measured feelings of pity toward the target. For example, “I am more fortunate than this person.”

Policy

Policies included those that are supported by the CDC mitigation strategies. One policy was excluded from the overall scale because it was punitive towards unvaccinated patients – vaccines were not included in any manipulation, and the patient pictured was not described in terms of vaccination status. These items were the last to which participants responded, so this item should not have influenced the other constructs measured in this study.

Efficacy

The instrument measured several dimensions of efficacy at different stages in the study.

Collective/social. An adapted version of Smith et al.'s (2007) measure to assess participants' perceptions of community willingness and ability to assist members of the derogated group represented by the image, e.g., “Members of my community are willing to join in and do their share of the work to help people with severe COVID-19 like the one pictured.”

Self-Behavioral. Conceptually, this measure and its verbiage come from Witte's (1992) fear appeal literature and includes language that expresses the ease with which one feels behaviors could be adopted (e.g., “I am able to socially distance, wear a mask, and disinfect my hands to prevent the contraction of COVID-19.”).

Response. The verbiage from these items comes from Witte’s (1992) fear appeal literature. It includes items meant to assess the effectiveness of behavioral uptake (e.g., “I am less likely to get COVID-19 if I social distance, wear a mask, and disinfect my hands.”).

Political Response. This item assesses the participant’s perceptions of policy change and government as an effective means of structural change that would resolve health issues (e.g., “Policy change is an effective way to resolve public health issues”).

Behavioral Intentions. Behavioral intentions were drawn from the CDC mitigation strategies (CDC, 2020) (e.g., “I will wear a mask when I am indoors in public spaces.”, “I intend to vaccinate for COVID-19 in accordance with government guidelines.”).

Vulnerability. Participants reported perceptions of vulnerability to severe COVID-19 among people with obesity, people of advanced age, and unvaccinated adults (e.g., “I consider obese people to be a vulnerable group”).

Odds of Severity. Participants reported how many times more likely they believe people with obesity and people of advanced age would be to die and or be hospitalized if they become infected with COVID-19. For example, “People with obesity are ____ times more likely to die from COVID-19 than people of healthy weight.” This item was

intended as a manipulation check; however, high standard error indicated that some participants may have struggled with the type of estimate requested.

Control variables included the demographic, somatic, and social contact characteristics listed in the description of the participants.

Analysis and Results

All analyses were carried out within R v. 4.1.3. The practical approach included `lm`, `plot`, and summary functions associated with linear modeling on the platform. Additional packages included `psych` (Revelle, 2022) for descriptive statistics, `ggplot2` (Wickham, 2016), and `interactions` (Long JA, 2019) for visualization, `apaTables` (Stanley & Spence, 2018) for formatting, and `olsrr` package for checking assumptions. The sections below explain the descriptive statistics associated with the variables included within the analyses. Hypothesis testing follows this section and is organized sequentially, describing specific models associated with each hypothesis. Any exploration related to the outcome of a hypothesis immediately follows the description of results for that hypothesis.

Descriptive Statistics of Variables Overall

The descriptive statistics, including Cronbach's alpha, are summarized in Table 12 overall.

Table 12*Descriptive Statistics of Measured Variables*

Measure	Mean(SD)	SE	α
COVID-19 Policy Overall	4.71(1.42)	0.06	0.82
COVID-19 Threat to Self-Trajectory	4.72(1.41)	0.06	0.69
COVID-19 Plausibility of Shift	2.64(1.25)	0.05	0.81
COVID-19 Collective Efficacy	4.91(1.32)	0.05	0.89
COVID_19 False Superior Pity	5.96(0.83)	0.03	0.71
COVID-19 Self-Efficacy Behavioral	5.94(1.15)	0.05	0.82
COVID-19 Response Efficacy Behavioral	5.70(1.30)	0.05	0.90
COVID-19 Behavioral Intentions	5.75(1.22)	0.05	0.75
False Superior Pity	3.45(1.26)	0.05	0.84
Severity of Threat to Self-Trajectory	3.44(1.27)	0.05	0.81
Social Attraction to Denigrated Target	5.29(1.07)	0.04	0.84

Notes. All items in this table were measured on seven-point Likert type scales where increasing values were associated with agreement. Items not labeled COVID-19 refer to responses to denigrated group (obese or advanced age) imagery.

The descriptive statistics associated with outcome variables are summarized in Table 13 by condition.

Table 13*Descriptive Statistics of Variables by Condition*

Variable	Control for COVID-19 Comparisons			Obese Imagery Condition			Advanced Age Imagery Condition			
	COVID-19 Image, then Obesity Image (n=171)		Threat Disparity Text (n=162)	No Text (n=157)		Threat Disparity Text (n=155)	No Text (n=159)			
	M(SD)	se	M(SD)	se	M(SD)	se	M(SD)	se	M(SD)	se
COVID-19 Threat to Self-Trajectory	4.44(1.42)	0.12	4.78(1.52)	0.13	4.68(1.43)	0.13	4.86(1.41)	0.13	4.86(1.22)	0.11
COVID-19 Plausibility of Shift	2.56(1.28)	0.11	2.47(1.23)	0.11	2.75(1.24)	0.11	2.57(1.20)	0.11	2.85(1.26)	0.11
COVID-19 Collective Efficacy	4.63(1.35)	0.12	5.14(1.24)	0.11	4.93(1.40)	0.13	4.95(1.35)	0.13	4.90(1.23)	0.11
COVID-19 False Superior Pity	5.80(0.76)	0.07	6.09(0.83)	0.07	5.88(0.88)	0.08	5.98(0.89)	0.08	6.07(0.76)	0.07
COVID-19 Self-Efficacy	5.99(1.09)	0.09	6.02(1.16)	0.10	5.74(1.27)	0.12	5.91(1.17)	0.11	6.00(1.06)	0.09
COVID-19 Response Efficacy	5.69(1.22)	0.11	5.80(1.33)	0.12	5.56(1.34)	0.12	5.59(1.48)	0.14	5.82(1.15)	0.10
COVID-19 Behavioral Intentions	5.88(1.09)	0.10	5.76(1.17)	0.10	5.65(1.42)	0.13	5.60(1.29)	0.12	5.84(1.13)	0.10
COVID-19 Policy	4.78(1.40)	0.12	4.81(1.47)	0.13	4.65(1.50)	0.14	4.58(1.44)	0.14	4.69(1.30)	0.11
False Superior Pity	3.49(1.28)	0.11	3.85(1.21)	0.11	3.29(1.29)	0.12	3.24(1.28)	0.12	3.31(1.19)	0.10
Severity of Threat to Trajectory	3.49(1.26)	0.11	4.08(1.26)	0.11	3.61(1.40)	0.13	3.01(1.14)	0.11	2.97(0.91)	0.08
Social Attraction	5.34(1.09)	0.10	5.34(1.02)	0.09	5.51(0.97)	0.09	5.08(1.19)	0.11	5.16(1.06)	0.09

Notes. All items in this table were measured on seven-point Likert type scales where increasing values were associated with agreement. Items not labeled COVID-19 refer to responses to denigrated group (obese or advanced age) imagery.

Hypothesis Testing

These hypotheses gauged the influence of exposure to disparity information that specified people with obesity and people of advanced age as more at risk of severe COVID-19 infection on COVID-19-related outcome variables. Six univariate analyses performed using the `lm` function in R 4.1.3 produced models which also included the following covariates: race, gender, education level, political party, employment status, partner status, whether there are kids in the home, income, age, political ideology, belief that policy is effective in resolving public health issues, the belief that the political system in the United States allows people like [them] to have a say in what the government does, the difference between present and ideal body type, and the proportions of the participant's social circle with obesity, of advanced age, or who have had COVID-19.

***Hypothesis 1.** Compared with the no disparity message condition, the disparity message will decrease the plausibility of becoming a severe COVID-19 patient.*

First, the possible relationship between message disparity text and the plausibility of becoming a severe COVID-19 patient was modeled with collapsed context. This model ($F(20, 565) = 2.27, p = .001, R^2 = 0.07, RSE = 1.22$) including covariates predicted plausibility of becoming a severe COVID-19 patient ($EMM = 2.60, se = 0.09$) by condition. The obese and advanced age imagery without disparity text predicted higher plausibility of severe COVID-19 ($EMM = 2.78, se = 0.11, sr^2 = .01, b = 0.32, se = 0.11, t = 2.80, p = .005$) than the condition with disparity text before responding to a member of a vulnerable group ($EMM = 2.46, se = 0.11$). There was no statistically significant difference

between perceptions of plausibility among people who responded to the COVID-19 patient first (EMM=2.55, se=0.13) and the treatment groups. However, that relationship trends in the same direction (higher than the text condition).

Results by Context

Next, the data were examined by subsets based on which denigrated group they evaluated before the procedure's COVID-19 section (see Table 14). Again, the plausibility of becoming a severe COVID-19 patient was regressed onto disparity message condition and covariates in each model.

Table 14

Regression Results Using Plausibility of Becoming a Severe COVID-19 Patient as the Criterion

Predictor	b_{obese}	sr^2	b_{Age}	sr^2
(Intercept)	1.11		1.58**	
Condition: COVID-19 First Ref: Text	0.09	.00	0.05	.00
Condition: No Text Ref: Text	0.30	.01	0.32*	.01
Race Black Ref: White	-0.24	.01	-0.09	.00
Gender: Woman Ref: Not Woman	0.05	.00	0.17	.00
Edu: Bachelors or More Ref: Less	-0.31*	.01	-0.14	.00
Party: Independent Ref: Democrat	0.01	.00	-0.24	.00
Party: Other Ref: Democrat	0.06	.00	-0.35	.00
Party: Republican Ref: Democrat	0.40	.00	0.21	.00

Predictor	b _{obese}	sr ²	b _{Age}	sr ²
Employment: Other than Full-time Ref: Full-time	0.25	.01	0.00	.00
Partnered: Yes Ref: No	-0.05	.00	-0.18	.00
No Kids in Home Ref: Yes, kids	0.09	.00	0.23	.01
Income	-0.00	.00	0.00	.00
Political Ideology (1=Extremely Conservative)	0.10	.01	0.05	.00
Govt. Efficacy	0.04	.00	0.08	.01
Policy Efficacy	0.03	.00	-0.10	.01
Age	0.01	.01	0.01*	.01
Difference in Ideal and Current Body Size	0.09	.01	0.02	.00
Proportion of social circle with obesity	0.00	.00	0.01	.01
Proportion of social circle who have had COVID-19	0.00	.01	0.01**	.02
Proportion of social circle of advanced age	0.00	.00	0.00	.00
	R ² = .081		R ² = .108**	
	95% CI[.00,.08]		95% CI[.01,.12]	
	F(20,331) = 1.46		F(20,334) = 2.01	

Note. A significant b-weight indicates the semi-partial correlation is also significant. b represents unstandardized regression weights. sr² represents the semi-partial correlation squared. Residual standard error Obese: 1.24 on 331 degrees of freedom* indicates p < .05. ** indicates p < .01. Residual standard error Age: 1.215 on 334 degrees of freedom

The results of the two models suggest the disparity text influenced plausibility of becoming a COVID-19 patient when participants have also evaluated a person of advanced age but not following the evaluation of a person with obesity.

Hypothesis 1 was partially supported by the data. Compared to the groups exposed to the images of people with obesity or people of advanced age without text, the text lowered perceptions of the plausibility of severe COVID-19 outcomes. However,

further examination indicates that this effect only remains significant when paired with advanced age images, not images of obesity.

***Hypothesis 2.** Compared with the no disparity message condition, the disparity message will increase the perceived severity of becoming a severe COVID-19 patient.*

In a model ($F(20, 565) = 3.66, p < .001, R^2 = 0.11, RSE: 1.35$), predicting the perceived severity of becoming a COVID-19 patient like the one pictured ($EMM = 4.63, se = 0.10$), having read a text drawing a connection between severity and a denigrated group (either obese or advanced age) ($EMM = 4.78, se = 0.12$) prior to responding to the COVID-19 patient increased perceptions of severity compared with first responding to the patient ($sr^2 = .01, b = -.38, se = 0.13, t = -2.43, p = .015$). However, the perceived severity of becoming like the COVID-19 patient after responding to a denigrated target without the disparity text ($EMM = 4.71, se = 0.12$) did not differ from the other two conditions.

The results of analyses subset by age or obesity do not reflect significant differences in the presence of disparity message compared to its absence either (see Table 15).

Table 15*Regression Results Using Perceived Severity of COVID-19 as the Criterion*

Predictor	b _{obese}	sr ²	b _{Age}	sr ²
(Intercept)	3.49**		3.38**	
Condition: COVID-19 First Ref: Text	-0.38*	.01	-0.40*	.01
Condition: No Text Ref: Text	-0.08	.00	-0.07	.00
Race Black Ref: White	-0.14	.00	0.14	.00
Gender: Woman Ref: Not Woman	-0.28	.01	0.01	.00
Edu: Bachelors or More Ref: Less	-0.15	.00	-0.04	.00
Party: Independent Ref: Democrat	-0.40*	.01	-0.01	.00
Party: Other Ref: Democrat	-0.31	.00	-0.24	.00
Party: Republican Ref: Democrat	0.51	.01	0.22	.00
Employment: Other than Full-time Ref: Full-time	-0.15	.00	-0.34*	.01
Partnered: Yes Ref: No	0.15	.00	-0.01	.00
No Kids in Home Ref: Yes, kids	-0.18	.00	-0.15	.00
Income	-0.00	.01	-0.00	.00
Political Ideology (1=Extremely Conservative)	0.07	.00	0.03	.00
Govt. Efficacy	-0.00	.00	-0.01	.00
Policy Efficacy	0.23**	.04	0.23**	.04
Age	0.01	.00	0.00	.00
Difference in Ideal and Current Body Size	0.10	.01	0.08	.01
Proportion of social circle with obesity	0.00	.00	0.00	.00

Predictor	b _{obese}	sr ²	b _{Age}	sr ²
Proportion of social circle who have had COVID-19	-0.00	.00	0.00	.00
Proportion of social circle of advanced age	0.00	.00	0.01*	.01
	R ² = .139**		R ² = .133**	
	95% CI [.03, .16]		95% CI [.03, .15]	
	F(20,331)=2.68		F(20,334)=2.56	

The means are provided in Table 16 to ease the interpretation of the relationships.

Table 16

Estimated Marginal Means Severity of COVID-19 Infection Within Each Subset

Condition	Obesity	Advanced Age
Disparity Message	4.85(0.18)	4.86(0.15)
No Disparity Message	4.77(0.17)	4.78(0.15)
Control	4.47(0.19)	4.45(0.15)

Note. With the Tukey method adjustment, none of the mean differences met the threshold for 95% significance.

These analyses do not support hypothesis 2. If implicit bias were at play, both the disparity message and the no disparity message conditions should have been significantly different from the control. However, it may be that the combination of disparity and social comparison, which occurred as part of data collection for the other study, reinforced the negative impacts of the disparity text.

Hypothesis 3. *Compared with the no disparity message condition, the disparity message will decrease intentions to comply with behavioral mitigation protocol.*

Intentions to comply with recommended COVID-19 protocols were regressed onto conditions and the covariates above. See Table 17 for unstandardized coefficients, and semi-partial correlation squared associated with this model.

Table 17

Regression Results Using Intention to Comply With COVID-19 Mitigation Protocols as the Criterion

Predictor	<i>b</i>	<i>sr</i> ²	se	t
(Intercept)	2.78**		0.35	8.01
Condition: COVID-19 First Ref: Text	0.29*	.01	0.12	2.50
Condition: No Text Ref: Text	0.09	.00	0.10	0.94
Race Black Ref: White	-0.28**	.01	0.10	-2.85
Gender: Woman Ref: Not Woman	0.10	.00	0.09	1.10
Edu: Bachelors or More Ref: Less	0.08	.00	0.09	0.83
Party: Independent Ref: Democrat	-0.15	.00	0.11	-1.30
Party: Other Ref: Democrat	-0.16	.00	0.24	-0.66
Party: Republican Ref: Democrat	0.11	.00	0.19	0.60
Employment: Other than Full-time Ref: Full-time	-0.03	.00	0.09	-0.27
Partnered: Yes Ref: No	0.13	.00	0.10	1.38
No Kids in Home Ref: Yes, kids	0.10	.00	0.10	1.04
Income	0.00	.00	0.00	0.24
Political Ideology (1=Extremely Conservative)	0.23**	.04	0.04	6.04
Govt. Efficacy	0.07*	.01	0.03	2.58
Policy Efficacy	0.28**	.08	0.04	7.96
Age	0.00	.00	0.00	0.42

Predictor	<i>b</i>	<i>sr</i> ²	se	t
Difference in Ideal and Current Body Size	0.04	.00	0.03	1.25
Proportion of social circle with obesity	0.00	.00	0.00	0.61
Proportion of social circle who have had COVID-19	-0.01**	.01	0.00	-3.08
Proportion of social circle of advanced age	0.00	.00	0.00	0.63
	$R^2 = .325^{**}$			
	95% CI[.24,.36]			
	F(20,565)=13.58			

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Residual standard error: 1.221 on 625 degrees of freedom. The estimated marginal mean within the text condition: 5.63; se=0.08.

* indicates $p < .05$. ** indicates $p < .01$.

The results were consistent when the intention to comply with mitigation protocols was regressed onto message conditions within each subset. The combination of disparity text and making social comparisons to a target influenced intention to comply, but the data did not support the text alone as explanatory in this relationship.

The regression model indicated the control group was more likely to comply than the disparity message group across all three models, and within the obesity subset ($F(20,334)=10.04$, $R^2 = 0.38$, $p < .001$), the difference in the relationship was also significant between control and no disparity message condition ($b=-0.28$, $se=0.13$, $t=-2.03$, $p=.043$).

The estimated marginal means associated with those models are provided below (see Table 18).

Table 18*Estimated Marginal Means of Intention to Comply With Protocols Within Each Subset*

Condition	Obesity	Advanced Age
Disparity Message	5.63(0.13)	5.60(0.12)
No Disparity Message	5.65(0.13)	5.76(0.12)
Control	5.93(0.13)	5.91(0.12)

Notes. With the Tukey method adjustment, none of the mean differences met the threshold for 95% significance.

Hypothesis 3 was not supported. However, the difference between the control and both conditions in the obesity context suggested that the intention to comply with protocols may have been related to social comparison to the denigrated groups.

Hypothesis 4: *Compared with the no disparity message condition, the disparity message will decrease support for COVID-19 mitigation policies.*

When support for COVID-19 mitigation policies was regressed onto condition and covariates ($F(20,565) = 19.42$, $R^2 = 0.41$, $p < .001$), the disparity text did not influence policy support compared to the no disparity condition ($sr^2 = 0.00$, $b = -0.01$, $se = 0.11$, $t = -0.14$, $p = .89$).

The effect of the text approached significance in the advanced age subset, such that the text condition ($EMM = 4.46$, $se = 0.13$) negatively influenced policy support compared with the control ($sr^2 = 0.01$, $b = -0.28$, $se = 0.15$, $t = 1.88$, $p = .061$). The effect was null in the obesity subset ($p = .770$).

Hypothesis 4 was not supported.

Hypothesis 5: *Compared with the no disparity message condition, the disparity message will increase self-efficacy to mitigate COVID-19 risk.*

The control (EMM=6.10, $sr^2=0.00$, $b=0.18$, $se=0.11$, $t=1.67$, $p=.095$) group reported higher self-efficacy to mitigate their own risk of severe COVID-19 than the text group (EMM=5.92, $se=0.08$). The same results were reflected when self-efficacy was regressed onto conditions within each contextual (obese versus advanced age stimuli). The data did not support the hypothesis that the disparity text would increase self-efficacy compared with control. The trend was also not as hypothesized.

Summary of Results

The only hypothesis that received support was that the disparity message would decrease perceptions of the plausibility of becoming a severe COVID-19 patient (see Table 19).

Table 19

Summary of Hypotheses by Analytic Set

Hypothesis: Compared with the no disparity message condition, the disparity message will	Results within Full Sample	Stimulus with Obesity	Stimulus with Advanced Age
... decrease plausibility of becoming a severe COVID-19 patient.	Supported	Not Supported	Supported
... increase perceived severity of becoming a severe COVID-19 patient.	Not Supported	Not Supported	Not Supported
... decrease intentions to comply with behavioral mitigation protocol.	Not Supported	Not Supported	Not Supported
...decrease support for COVID-19 mitigation policies.	Not Supported	Not Supported	Not Supported
...increase self-efficacy to mitigate COVID-19 risk.	Not Supported	Not Supported	Not Supported

Although the data did not support the hypotheses as designed, the control condition demonstrated some intriguing differences from the experimental conditions. The implications of the null findings and the differences from control are discussed in the following section.

Discussion

This study aimed to examine how exposure to information about disparities in the severity of COVID-19 infection among people of advanced age and people with obesity influences intentions to comply with COVID-19 mitigation protocol and support mitigation policy. Additionally, this study examined whether this information influenced perceptions of the plausibility of severe COVID-19 infection among people under 65 years old with a body size not classified as visually obese. The overarching investigation engaged with the potential of unintended effects associated with social comparison framed disparity information that has been highly prevalent in the media throughout the pandemic.

The models in this study did not support a relationship between disparity messages and perception of the severity of COVID-19, intentions to comply with COVID-19 mitigation protocols, support for COVID-19 mitigation policy, or self-efficacy to comply with mitigation protocols.

The findings indicate that the message describing COVID-19 disparity only predicted the plausibility of becoming a patient with severe COVID-19 when paired with the social comparisons to an advanced age target compared to risk assessment after making those comparisons without a disparity message. In this context, the data demonstrated the predicted reduction of plausibility among the participants. This finding

may be an artifact of reinforcing a concept with which the participants were likely familiar, given the extensive media coverage of severe outcomes and mortality among people of advanced age (Zhang & Liu, 2021).

During the pandemic's early phases, the overestimated risk of severe COVID-19 outcomes permeated young adults, especially those with liberal-leaning political ideologies (Abel et al., 2021). Contrary to the finding in this earlier stage of the pandemic, participants in the present study expressed low perceptions of the plausibility of becoming a severe COVID-19 patient. A portion of this shift in perception of the plausibility of severe COVID-19 outcomes among younger people could relate to the relative ease of access to vaccines and recently increased access to successful drug therapies (*With COVID-19 Antiviral Supplies Now Ample, Quick Action Is the Key*, 2022). Sense of regained control due to these treatments also likely limits any negative influence of disparity information based on susceptibility-oriented judgments.

To some degree, the null findings may be indicative of pandemic burnout. Message fatigue refers to being burnt out or tired of hearing about a particular issue or an issue framed in a particular way (So et al., 2017), leading to a lack of effectively attending to or processing the intended message elements. Additionally, Guan et al. (2022) found through thought-listing analysis people reported being tired of hearing about mitigation protocols related to COVID-19, denial of COVID-19, politicization, and inconsistencies regarding news and COVID-19 knowledge. The COVID-19 knowledge category included statistics about transmission, death, hospitalization, severity, and susceptibility (Guan et al., 2022). Moreover, their study linked message fatigue to both reactance and inattention; in this case, the null effects may indicate such inattention and

fatigue. Future studies investigating pervasive topics in media should consider measuring fatigue directly, as it may have offered explanatory power in the context of advanced age and risk disparity.

Although the influence of the disparity message alone was limited, the comparison between the disparity message paired with the social comparison responses that largely made up the study from which the data was drawn and the evaluation of the control condition demonstrated some interesting relationships. The control condition included the images of the COVID-19 patients accompanied by the same items as the other conditions, just not preceded by anything. The cause of the effects discussed below cannot be linked directly to any single component of the prior experiment. Rather the effects are linked to being in a treatment group or not.

Participants in the treatment groups with disparity messages reported increased perceptions of severity and decreased intentions to comply with COVID-19 mitigation protocol compared with participants not participating in the earlier experiment. The increase in severity of the threat to self-trajectory may reflect the undesirability of joining the associated super groups (people with obesity and people of advanced age). The decrease in intention to comply with a protocol that would mitigate the spread of COVID-19 after reading that these groups are at risk underscores this interpretation of that relationship. These findings may indicate that combining disparity information with appraisals of a denigrated group member primes feelings of superiority. Van et al. (2020) expressed concerns about this possibility when they warned against comparing nations' performances against each other in response to the pandemic.

Overall, the results of this study make a small contribution to the unintended effects literature.

Limitations and Future Directions

Although this study extends the literature on unintended effects, it faces certain limitations. The most pressing limitation is the lack of control that saw the text without evaluating a person with obesity or of advanced age before beginning the other study stage. It is incredibly difficult to claim that disparity information alone has these unintended effects without that comparison. The findings suggest that disparity information negatively influences behavioral intention when a social comparison is salient. However, given many measures included in the experiment that preceded the data analyzed here, it cannot be ascertained that the social comparison items and not the context-specific policy items influenced these downstream outcomes.

Additionally, this study included equal numbers of African American, Black, and white participants, allowing the data to be examined in future studies of racial differences in threat perception in these contexts. However, this choice also means that various other racial identities have not been represented here, so findings are limited in their generalizability.

Future work should empirically examine the potential for social comparison to moderate the influence of disparity information in appraisals of fluidly bounded, denigrated groups facing multiple stigma. Additionally, combinations of disparity messages with imagery that varies by stigma markers could be fruitful.

Conclusion

This study contributes to our understanding of the unintended effects of disparity information. Disparity information may decrease personal risk perceptions among people who do not identify as members of the groups who face a higher risk of negative outcomes. However, the findings of this study do not support an additional risk of reducing compliance with risk mitigation simply due to exposure to disparity information. The combination of disparity information with a social comparison task or social comparison language should be investigated for potential boomerang effects on risk mitigation protocols in future work.

CHAPTER 4: STUDY 3: EXAMINING REALISM, ENJOYMENT, AND APPRECIATION AS ANTECEDENTS TO STEREOTYPE CONTENT, DISTANCING, AND SUPPORT OF WORKING MOTHERS

On March 15th, 2020, the largest school system in the nation sent its' students home for an indefinite period (Shapiro, 2020); five days later, the entire state of New York would receive unprecedented stay-at-home orders, except frontline and essential workers. By the end of that month, thirty states had similar orders (Mervosh et al., 2020). For the rest of the calendar year, children that once silently occupied picture frames loudly presented in the remote workplaces they called home and school. They popped up in work meetings with the kinetic energy of a GIF sent accidentally. Though the children were largely visible, the challenge the situation posed to their caregivers seemed less apparent to onlookers.

Under that cloak of invisibility lay the potential for reversing the advancements toward reducing the motherhood penalty. This penalty refers to the discrimination in wages and opportunities for advancement women with children face (Jolly, 2017; Musick et al., 2020). For women with children, their status as a mother reduces perceptions they can and do their jobs well. However, demonstrating competence makes them less likable (Benard & Correll, 2010; Cuddy et al., 2004; King, 2008); either way, these costs are tangible in opportunities for advancement and lost wages. Hard-fought gains toward equality by women in the employed sector have been slowing substantially since the 1990s (England et al., 2020).

Moreover, current research indicates that, following the onset of the pandemic, attitudes have shifted toward approving traditional distributions of paid employment and

unpaid domestic labor compared with the year before (Mize et al., 2021). Some mothers moved online to seek social support networks to replace those they lost to social distancing orders, spaces to express light frustrations and serious concerns surrounding the renewed stigma of working motherhood (e.g., Bauer & Ngondo, 2022; Elias & D'Agostino, 2021; Green & O'Reilly, 2021). The work that follows examines how using different tones (i.e., light and serious) to discuss these challenges might be received by working people who do not identify as mothers but who, as working people, have a stake in the social treatment of working mothers.

The Treatment of Working Mothers During the COVID-19 Pandemic

The United States was not without a roadmap for handling a sudden shift in gendered work expectations due to the crisis (Elias & D'Agostino, 2021; Fink, 2021). Elias and D'Agostino (2021) compared the parenting situation during the pandemic to that of the WWII era when many women entered the workforce under a national crisis, except in this case, the workforce entered the home under crisis. They commented further that despite the passage of time, the discussion had centered predominantly on the needs of children, neglecting the well-being of home caregivers. Elias and D'Agostino (2021) stressed the need to move the beliefs surrounding care for children from the personal space to the collective space – well-cared-for children benefit society, not just their parents. Fink (2021) similarly expressed discontent with the handling of the underlying childcare crisis and states that by ignoring the lessons of WWII and not orchestrating solutions (e.g., facilitated care and school pods), the government deliberately reversed women's progress in the employed sector.

Mothers and caregivers also felt unease with not being deemed ‘essential workers’, which would carry extra social and tangible gratitude during the pandemic. Smith (2022) found evidence across 16 semi-structured interviews that women who provided unpaid and paid care for children shared the sentiment that they were not supported or appreciated during the initial lockdown period in Canada (circa Spring 2020). Similar experiences were captured by Hermann et al. (2021) in the United States. Certainly, the lack of structural intervention to benefit primary caregivers was a common thread across much of the literature on motherwork during the pandemic (e.g., Blithe et al., 2022; Burk et al., 2021; Collins, 2020; Dugan & Barnes-Farrell, 2020; Firestone, 2021; Friedman et al., 2021; Green & O’Reilly, 2021; O’Reilly, 2020; Quinlan & Johnson, 2020).

Further, there seemed to be consensus on the types of support that would benefit working mothers in the United States among scholars who study their experience: extended child tax credits, publicly organized and funded contingent care plans for school and large center closures, universal access to quality childcare, and wage transparency (e.g., Elias & D’Agostino, 2021; Fink, 2021; Green & O’Reilly, 2021).

Moreover, there is a need to continue collecting data to understand the challenges these women and the policies that would help them may face (Elias & D’Agostino, 2021; F. J. Green & O’Reilly, 2021). This study attended to these issues by examining the relationships between the way working non-parents respond to both light and serious content posted by working mothers during the pandemic. Additionally, whether perceived realism and motivation to engage with the media provided the mechanisms through

which media content influences structural support for parents or further othering. The construction of this argument begins by describing content posted by working mothers.

Content for Coping With a Pandemic

The COVID-19 pandemic prompted many people to move their social support-seeking to social media platforms (Flecha Ortiz et al., 2021; Nimrod, 2020; Squicciarini et al., 2020), working mothers included (F. J. Green & O'Reilly, 2021). Some parents expressed the difficulty of working from home with kids through humor or light-heartedness (Bauer & Ngondo, 2022; Lemish & Elias, 2020). Lemish and Elias (2020) identified several humorous themes in the content shared by parents in Israel. The themes included remote schooling, coping techniques, parental hardship, and grandmothers' role in the household (Lemish & Elias, 2020, p. 7). Much of the content challenged the unrealistic parenting expectations during the period by creating fake curricula or household routines to mirror advice posters found unhelpful. Imagining not having children and joking about extreme measures to become a non-parent was indicative of the level of burden some parents felt. Humor can be an effective coping mechanism during crisis periods (e.g., Bischetti et al., 2021; Chiodo et al., 2020; Outley et al., 2021; Saricali et al., 2020; Torres-Marín et al., 2022), but within the safety of working mom group spaces (Anderson, 2013) other kinds of content emerged.

Not all of the material working mothers posted was light-hearted. Bauer and Ngondo (2022) examined the experience of mothers working in academia during the pandemic through a combination of autoethnography and thematic analysis of memes shared across an online group of academic mothers. They found themes of unrealistic expectations, unequal emotional and domestic labor burdens, decision fatigue, and self-

doubt. They attributed the wide range of light to serious content to the level of vulnerability the parent was comfortable showing. Bauer and Ngondo (2022) commented that although the online group they studied provided a safe space for complaining and seeking tailored productivity advice, it also reinforced the belief that these challenges should be compartmentalized and hidden. Following her examination of motherhood-related content on Facebook, O'Reilly (2020) echoed the sentiment that these experiences of feeling ignored and overworked should be 'made visible' (p.8). The question remained: what kind of reception would this disclosure receive?

The overarching theme in the time of the COVID-19 pandemic among mothers online (e.g., Bauer & Ngondo, 2022; J. Smith, 2022) and in the popular press (e.g., Bennett et al., 2021; Campoamor, 2022; Joyce & McCarthy, 2020; Koh, 2021; Tulsiani, 2020) was that there were too many roles to take on simultaneously and there was too little help (Collins, 2020; Elias & D'Agostino, 2021; Fink, 2021; Friedman et al., 2021; O'Reilly, 2020; J. Smith, 2022). This theme of overwork carried a risk in how women who post this content would be evaluated. The next section frames that risk within the stereotype content model.

Stereotypes and Prejudice Toward Working Mothers

Through the Lens of Stereotype Content Model

Fiske et al. (1999) situated the stereotype content model at the group level, suggesting that most stereotypes are borne out of the perceived social status of the group and perceived relationship with the outgroup – cooperative or competitive. This model element feels particularly pertinent to policy support decisions, given that many policies inherently have to do with resource distribution. Fiske et al. (1999) describe the way

stereotypes frequently exhibit ambivalence; for example, fat people might be characterized as lazy (incompetent) but friendly (warm). Lin, Kwan, Cheung, and Fiske (2005) found that participants rated Asian Americans as competent but cold. However, since participants perceived Asian Americans as competitive, increased competence carried a negative connotation. Working moms also fall into the ambivalent response quadrants of the stereotype content model (Cuddy et al., 2004, 2007, 2008).

Generally, working mothers are perceived as incompetent but warm (Fiske, 2012) – unless they demonstrate competence, then they are perceived as cold (Benard & Correll, 2010). Benard and Correll (2010) found among an undergraduate sample, removing the ambiguity associated with assessments of working mothers' competence by providing an extremely competent exemplar shifted focus to negatively assessing the employee on the other stereotype content continuum, warmth. More recently, Odenweller et al. (2020) found that the overworked stereotypes of a working mother were met with helping intentions from stay-at-home and working mothers. They attributed this finding to perceiving the 'incompetence' of an overworked mother as an impression of positive character, a kind of grit. Though they also suggested the overworked mother may have made the participants feel better about themselves, which reduced the sense of competition with these mothers. In both studies described above, the authors argued that a sense of reduced competition and subsequent downward social comparison drove the positive valence of negative competence assessments. So, if competence is set lower, then we might expect warmth to be the driving mechanism of evaluation in response to the content posted by working mothers. However, given the ambivalent nature of competence valence (i.e., whether it represents a positive or negative attribute), we

anticipate that other message elements may moderate the influence competence exhibits on responses to working moms.

Lee and Fiske (2006) argued that group status and interdependence are fluid. This fluidity presents a space for communication constructs to intervene and shift perceptions toward the desired expressions of warmth and competence. While research indicated perceptions of warmth and competence have ambivalent effects on attitudes toward and intention to help working moms based on stereotype content (Benard & Correll, 2010; Cuddy et al., 2004; Fiske, 2012; King, 2008; Odenweller et al., 2020), these have not been examined in terms of whether the tone of the message influences stereotype content of working moms. Frameworks of motivation for media use provide grounds for what kinds of stereotype content should be expected when working moms describe their plight from an amusing or serious perspective.

Moving People Toward Pro-Sociality by Satisfying Eudaimonic Motivations

The construct of enjoyment has been defined as gratifying hedonic needs (Katz et al., 1973; Raney (2004); Zillman & Cantor, 1977), as an attitude toward media (e.g., Nabi & Krcmar, 2004), and as satisfying both hedonic and non-hedonic motivations (Oliver, 2008; Oliver & Bartsch, 2010; Tamborini et al., 2010; Wang, 2019). Since working mothers posted both light and serious content (Bauer & Ngondo, 2022; Friedman et al., 2021; Lemish & Elias, 2020; O'Reilly, 2020), the two-factor eudaimonic hedonic model was applied to the exploration of tone as predictive of stereotype content. The work discussed in the section below draws connections between what should be expected depending on whether working moms approach their online posts light-heartedly or seriously.

Eudaimonic

Eudaimonic media refers to media with a particular emphasis on the human experience and human virtue, media that fosters appreciation even if it is not overtly entertaining. Oliver (2008) argued that perceptions of meaningfulness trigger this poignant or appreciative response to media. Hedonic enjoyment and appreciation are not mutually exclusive. Results from three studies that examined the role of the genre (serious, light, action) in predicting which needs were met by the media supported a two-factor hedonic-eudaimonic model (Oliver & Bartsch, 2010). Meaning media can evoke both of these responses. Oliver et al. (2012) found that among undergraduates who were asked to think about a meaningful or pleasurable film they recently viewed, meaningful films were more evocative of an elevational emotional response (e.g., inspired, meaningful, compassion, tender, touched, moved) than pleasurable films. Thus, when applied to working mothers, one might expect that the more serious content related to mothering during the pandemic would be perceived with higher appreciation than the light content.

Moreover, elevating media can predict feelings of connection to diverse others and prosocial intentions (Freeman et al., 2009; Haidt, 2003; Oliver et al., 2015; Pohling & Diessner, 2016). When people appreciate the content, rather than exclusively finding pleasure in it, that fulfillment predicts support for denigrated groups more powerfully (see Oliver et al. (2021) for an extensive review). For example, Shulman et al. (2021) found that inspiring videos alter perceptions of and support humanitarian policy surrounding Palestinians. Similarly, Khoo and Ash (2021) found participants primed by reading socially conscious comments online felt moved, which predicted greater concern

for social justice and support for affirmative action. Also, Janicke-Bowles et al. (2019) found that watching inspiring videos improved well-being among full-time employees. Further, when appreciation extended from media to a more general appreciation for the good things in life, people felt their work was more meaningful and more connected with their coworkers. Following these findings, one might anticipate that the more serious approach to discussing the working mom experience would enhance support for working moms through the feelings of appreciation it would evoke.

Oliver et al. (2021) invited researchers to seek additional mediators between appreciation and pro-sociality. Measures of warmth drawn from the stereotype content model are predicted to mediate the relationship between appreciation and policy support. According to that model, and its extension, the behaviors from the intergroup affect and stereotypes (BIAS) Map (Cuddy et al., 2007), increased feelings of warmth, derived from a sense of appreciation for the content, in this case, should be associated with active facilitation (i.e., policy support) as long as competence lies somewhere in the mid-range. Concerning the lighter content working mothers post, hedonic enjoyment may offer an appropriate path to persuading toward policy support.

Hedonic Enjoyment and Pro-Sociality

Different forms of hedonic enjoyment have persuaded people to pay attention to the plights of others (De Ridder et al., 2022; Feldman & Borum Chattoo, 2019). For example, Feldman and Borum Chattoo (2019) found that watching a satirical news show about refugees improved attitudes toward refugees for at least two weeks. The influence of the show's comedic tone on these attitudes was mediated by the entertainment value attributed to the show. Through a series of interviews, de Ridder et al. (2022) found that

stand-up comedy integrated into a socially conscious show improved attitudes toward various groups by making the denigrated group more approachable via their comedian representative. Based on this evidence that lighter content predicts more positive group evaluations, hedonic enjoyment should mediate the relationship between light content and warmth perceptions of working mothers. However, there is some competing evidence that prosocial messages may not make advances through the type of enjoyment amusing content offers.

Some work indicates hedonic enjoyment may not be effective in persuasion related to serious issues (McGraw et al., 2015; Nabi et al., 2007). Xiao et al. (2018) examined the influence of humor on communicating crises; they found that although attitudes toward the source of the messages improved, the seriousness of the threat dissolved. Similarly, Nabi et al.'s (2007) findings indicated participants discount the significance of issues in politically charged content if they perceived the material as funny. So, although it was anticipated that hedonic enjoyment was associated with warm evaluations of working mothers, it was unclear whether that would lead to structural support.

Realism and Pro-Sociality of Amusing Content

In realism, inconsistency generally refers to a lack of congruency between story elements and expectations that lead to feelings of unrealism (e.g., Busselle & Bilandzic, 2008; Shapiro & Kim, 2012). For example, if the hero in a children's show robbed a bank. External realism represents the similarity between the story world and the real-world (Cho et al., 2014; Hall, 2003; Shapiro & Fox, 2002). For example, the schoolteacher on *House Hunters* with a \$3 million budget would be deemed atypical, thus

unrealistic. Violations of expectations in realism sometimes result in the less persuasive influence of messages (e.g., Cho et al., 2013, 2014; Fludernik, 1994; van der Velde et al., 1992). For example, Cho et al. (2019) found that realism enhanced the attitudinal effects of social media content on viewers. Increased plausibility and narrative consistency reduced message minimization in a study on the effectiveness of anti-alcohol and anti-drug messages. Busselle and Vierrether (2022) introduced inconsistencies into narratives and found that these inconsistencies reduced perceived realism and narrative realism. External realism mediated the relationship between the introduction of inconsistencies and reduced narrative realism. Further, narrative realism predicted imagery production, in turn predicting emotional engagement. Thus, a reduction in realism would predict reductions in the influence of the content in this study.

This potential power of unrealism is important because one of the dangers of light content is message minimization through message discounting (Nabi et al., 2007; Xiao et al., 2018). This potential to discount may be higher in light messages because the incongruency simultaneously makes them more amusing (Kant & Norman, 2019; McGraw & Warren, 2010) but less realistic. However, little is known about the relationships among comedy, realism, and policy support. One of few examples examining realism, light content, and subsequent evaluations found that perceived realism of violent, comedic ads improved brand attitudes to a degree (Karpinska-Krakowiak, 2020). However, when comedic violence peaked, participants responded with perceptions of unrealism, which damaged brand evaluations. Landreville and LaMarre (2013) examine the influence of perceived external realism of a comedic, political fiction film on the relationship between elaboration about a news article and

intention to discuss the topic of the news article. Low external realism significantly dampened the influence of elaboration on the intention to discuss the topic even when elaboration was high. This finding indicated that higher realism should help extend the impact of content to policy support in the present study. Content genres (serious and light) may demonstrate different influences on subsequent effects depending on realism (Manoliu, 2019). Manoliu (2019) selected two political series to operationalize serious (House of Cards) and not serious (The West Wing) content. They posited that the serious show would increase cynicism, the lighter show would reduce it, and that each of these relationships would be moderated by perceived realism. They found that realism amplified the relationship between viewing an episode and expressing cynicism in the serious content condition but did not moderate within the light content condition. Thus, one would expect that the realism of the content posted by working moms would moderate the influence of content type on policy support. When content was serious, high realism would increase policy support compared with the light content, low realism condition.

Returning to the Discussion of Ambivalent Responses and Contributing an Ambivalent Mechanism: False Superior Pity

Pity, among other emotions, mediates between responses to target and helping those targets within the BIAS Map (Cuddy et al., 2007). Pity in the BIAS map should predict passive harm, so inaction or lack of policy support. Odenweller et al. (2020) found that higher warmth and lower competence associated with working moms predicted pity, measured by sympathy and pity items. Still, those, in turn, did not predict passive harm.

These alternative findings may be related to the limited measurement of the pity construct. False superior pity might occupy the space between sympathy and contempt on the BIAS Map (Cuddy et al., 2007). This type of pity is connected with the desire to maintain the status quo even at the cost of the pitied person or group (Florian et al., 1999). Following a phenomenological study, Florian et al. (1999) designed and validated several dimensional scales of pity. This type of pity relies on downward social comparison (Florian et al., 1999). This comparison type is integral to expressing ambivalent stereotype content (Cuddy et al., 2008).

Further, conjectures to explain results regarding working mothers in the stereotype content literature argue that social comparisons help explain the valence of competence perceptions (Benard & Correll, 2010; Odenweller et al., 2020). Thus, one would expect pity to function as a measure of social comparison. As such, pity would moderate the relationship between competence and policy support. Policy support would be higher when pity was high, and competence was low than when pity was also low.

It is also possible that the content in this study may be poorly received. For example, Saling et al. (2019) found that participants expressed more discomfort with others' online disclosures as the negative valence of the information increased. The theme of overwork expressed in both light and serious content posted by mothers may be perceived as complaining, which would be negative. Disclosing the struggle of working from home with kids may garner negative expressions of perceived incompetence, resulting in harmful intentions toward working mothers. This form of negative evaluation also indicates a downward social comparison that, according to the stereotype content model, would predict avoidance (Cuddy et al., 2007). Thus, pity was expected to mediate

the relationship between content type and behavioral intentions. Light content would predict lower false superior pity, serious content would predict higher false superior pity, and false superior pity would predict avoidant behavior.

The hypotheses tested within this study are summarized in Table 20.

Table 20

Summary of Hypotheses and Rationale

Hypothesis	Brief Rationale
Hypothesis 1: Appreciation will mediate the relationship between condition and policy support such that serious content predicts higher appreciation, which in turn predicts higher policy support.	Recent work on eudaimonic media indicates it can enhance pro-social outcomes. Further, eudaimonic media has higher potential in helping outgroups through its theorized relationship with feeling elevated – these feelings were captured by appreciation. (p. 122-123)
Research Question 1: Will light content predict higher policy support through hedonic enjoyment?	Although research indicates that lighter content tends to be hedonically enjoyed, the connections with policy level and social outcomes indicate some ambivalence in the influence of hedonic media on these measures. (p. 124)
Hypothesis 2: Warmth will mediate the relationship between appreciation and policy support, such that appreciation will positively influence warmth, and warmth will positively influence policy support.	Appreciation is associated with a sense of elevation, which sometimes extends to a feeling of closeness to others. This feeling may translate into perceiving the source of an elevating message as warmer. (p.124) So, warmth creates an indirect path through which appreciation can enact the feeling of closeness to others through policy support. (p.124)
Hypothesis 3: Hedonic enjoyment will positively influence warmth.	The attempt at amusement might extend to perceptions of the friendliness and funniness of the source, which in turn should increase warmth. (p.123-124)
Hypothesis 4: Realism will moderate the influence of content type on policy support such that when content is serious, high realism (i.e., informal imagery) will increase policy support compared with light, low realism.	The threat's realism and the content's seriousness will enhance the sense that working mothers face a significant enough threat to warrant relief. Whereas the light tone with low realism may reduce the sense of need for change. (p. 125-126)
Hypothesis 5: False superior pity will mediate the relationship between content type and behavioral intentions,	The serious content may be interpreted as negatively valenced disclosure, garnering more negative responses. (p. 127)

Hypothesis	Brief Rationale
such that light content will predict lower pity, serious content will predict higher pity, and pity will, in turn, predict avoidant behavior.	Pity is also associated with passive harm, one form of avoidance. (p.128) Some researchers attribute ambivalent and conditional responses to working mothers to social comparison – false superior pity involves making a social comparison. (p. 128)
Hypothesis 6: False superior pity will moderate the relationship between competence and policy support. When pity is high, and competence is low, policy support will be higher than when pity is low.	Competence operates as a response to status differences. False superior pity indicates a downward social comparison, making the target less of a status threat. This comparison allows competence to function positively (help) instead of negatively (harm). (p 121, 128-129)

Method

The discussion of the research method includes an overview of the study design and study participants, as well as study procedures.

Design

A 2 (Content-type: Serious versus Light) by 2 (Realism Level: High versus Low) plus control experiment was conducted to evaluate the hypotheses described above. Realism was operationalized by including either staged or informal images of mothers working for pay with children at home.

Participants

Participants (n=403) were recruited via the online platform Prolific Academic. Participants were compensated for their time per the site regulations. The sample was limited to individuals who reported in pre-screening working at least part-time, being between 18 and 55, and not having children. These choices are that people who work for pay are more likely to be impacted by practices and policies surrounding co-workers with kids than those who do not work for pay. These parameters also provide a group within

range of both making managerial decisions in work contexts(Shore et al., 2003). Lastly, this study aimed to understand the intergroup dynamics associated with the type of content regularly posted in parent-oriented social media spaces. Hence, the lack of children creates an intergroup boundary. After removing participants who either did not complete the study (n = 3) or reported in the demographics section that they had children in their household (n = 9), the analytic sample included 391 participants. The sample's demographic characteristics are included in Tables 21 and 22 below.

Table 21

Demographic Characteristics of Sample

Characteristic	Level of Characteristic	N	Proportion (%)
Gender Identity	Woman	189	48.3%
	Man	184	47.1%
	Trans Woman	1	0.2%
	Trans Man	1	0.2%
	Trans	0	0.0%
	Non-binary	11	2.8%
	Genderqueer	3	0.8%
	Prefer not to answer	1	0.2%
Education Level	Less than High School	1	0.2%
	High School	36	9.2%
	Some College	76	19.5%
	Associates Degree	35	9.0%
	Technical School Degree or Certification	2	0.5%
	Bachelors' Degree	185	47.4%
	Masters' Degree	44	11.3%
Advanced Professional Degree	8	2.1%	

Characteristic	Level of Characteristic		
	Doctoral Degree	3	0.8%
	No response	1	0.2%
Political Party	Democrat	237	60.6%
	Republican	39	10.0%
	Independent	108	27.6%
	Green Party	2	0.5%
	Working Families Party	0	0.0%
	Other	5	1.3%
	Relationship Status	Single	158
Dating Exclusively		91	23.3%
Dating Casually		19	4.9%
Domestically Partnered		40	10.2%
Married		72	18.4%
Separated		3	0.8%
Divorced		6	1.5%
Widowed		0	0.0%
Other		2	0.5%
Employment	Employed full-time (36+ hours)	281	71.9%
	Employed part-time (less than 36 hours)	30	7.7%
	Full-time student	5	1.3%
	Part-time student	1	0.2%
	Part-time home/family caretaker (unpaid)	0	0.0%
	Full-time home family caretaker (unpaid)	0	0.0%
	Self-employed	24	6.1%
	Retired	0	0.0
Work Logistics	Remote none-of-time	120	30.7%
	Part-time remote	136	34.8%
	Full-time remote	135	34.5%

Characteristic	Level of Characteristic		
Ethnicity	Hispanic/Latinx/o/a/e	34	8.7%
	Hispanic not Latinx/o/a/e	4	1.0%
	Latinx/o/a/e not Hispanic	4	1.0%
	Neither Hispanic nor Latinx/o/a/e	349	89.3%
Race	Black or African American	11	2.8%
	White	298	76.2%
	American Indian or Alaskan Native	4	1.0%
	Asian	47	12.0%
	Native Hawaiian or other Pacific Islander	3	0.8%
	Combination of two or more of the above	20	5.1%
	Other	8	2.0%

Notes: In the employment characteristic, any combination of choices, including full-time, was classified as full-time employed. Additionally, the employment characteristic was the only one found to have issues of independence. A disproportionately low amount of not full-time workers are in the serious content, informal image condition compared to others.

Continuous sample characteristics can be found in Table 22.

Table 22

Continuous Measures of Participant Characteristics

Characteristic	M(SD)	SE	Mdn
Income	74505.03(57987.10)	2940.06	60000
Age	30.37(7.38)	0.37	30
Political Ideology	5.17(1.55)	0.08	6
Mom Co-workers	36.93(25.65)	1.30	32
Dad Co-workers	40.23(27.19)	1.38	36
Endorsement	5.17(1.23)	0.06	5

Notes. Political ideology was measured on a 7-point scale (1: Extremely Conservative to 7: Extremely Liberal). Mom and Dad Co-Workers refers to a percentage estimate provided by the participant of moms and dads with whom they work. Endorsement refers to the belief that sharing content online is the equivalent of endorsing that content. F-tests indicate that only a percentage of mom co-workers differed among the condition. The serious content, informal image group reports working with 11.6% more moms than the light content, staged condition.

Procedure

Participants opted into the study by clicking on a Prolific Academic home page link. The study's first page was an online consent form where they indicated their desire to proceed with the study by responding with affirmative consent. Next, participants were randomized into the no message control group or one of four (4) possible treatment conditions: eudaimonic or hedonic content paired with more or less realistic imagery.

After being exposed to the experimental content for twenty (20) seconds, they moved into the questionnaire. The questionnaire assessed their perceptions of the realism of the content, the type of motivation met by the media they viewed, perceptions of warmth and competence, the severity of the threat to self-trajectory, plausibility of identity shift, false superior pity, additional affective responses, collective efficacy, policy support, behavioral intentions toward fertility, self-compassion, experience working with working parents, and lastly demographics.

The control group responded to items assessing their trait media motivations, then all the same blocks as the experimental group except for assessing the realism of the content they viewed. Instead, control participants responded to general realism perceptions regarding online parenting content before answering demographic questions. The only difference was that treatment groups responded to an item asking if they would promote someone like the person who posted the content they viewed, and the control group did not respond to this item.

The Cornell University, Institutional Review Board, approved all procedures and materials for Human Participant Research (IRB) and designated the study as exempt.

Stimuli

The discussion of stimuli includes an overview of manipulated constructs.

Content-Type

The stimuli were selected following an informal search of social media content regarding the experiences of mothers working from home with kids by the author and a compilation of that content. The selection was further influenced by reviewing qualitative analyses of the themes present in similar content performed by motherhood scholars (e.g., Bauer & Ngondo, 2022; Green & O'Reilly, 2021; O'Reilly, 2020). Both conditions represent 'balancing' maternal posts, i.e., content that comments on the conflicts or difficulties associated with balancing the roles of mother and paid worker (e.g., Han & Kuipers, 2021; Quinlan & Johnson, 2020). One tells an amusing story that makes light of a difficult moment, and the other tells a story that takes the subject more seriously. They both appear as brief demonstrations of original content presented in a familiar style of a black text box against an image.

Kant and Norman (2019) describe the type of humor intended by the stimuli in this study as a 'violation of social expectations' (p.3), which falls into the broader category of benign violation (McGraw & Warren, 2010). This type of comedy indicates that the unequivocal good of motherhood is violated by exacerbation with the surprise interjection of a child.

Realism

The visual stimuli were selected based on their status as staged or stock photography or informal, candid photography. The aesthetic differences also included brighter lighting and cleaner spaces, which lent themselves to interpretations based on

narrative consistency with having kids and the typicality of a clean home/workspace. The decision to manipulate this variable visually came partly from O'Reilly's (2020) call to make what was invisible visible. This manipulation tests whether realistic visual demonstrations of the challenge of motherwork influence perceptions of these workers differently than staged images with stock photography models.

Manipulation Check

A small sample ($n=40$) of non-parents evaluated several possible messages and images separately. They evaluated the messages based on how amusing or moving they perceived them on a scale of agreement (Likert-type 7-point, increasing with agreement). The content was selected from this pool for the experiment based on the maximum mean differences between amusing and moving content. The range for the difference in amusement was 2.00-3.01 points on the scale, and the range for the difference in moving was 1.40-1.65 scale points among the selected items. Paired t-tests indicate a significant difference at the minimum values with 95% confidence for amusement ($t(39)=5.81$, $p<.001$) and moving ($t(39)=5.42$, $p<.001$). After the manipulation check, the stimuli were adjusted to sharing structure and narrative perspective.

A small pool of images was evaluated in this check. These images indicated divergence in evaluations on whether they were perceived to generally represent what working at home with kids is like ($t(39)=6.11$, $p<.001$). Additional images were added to the study pool after the manipulation check; the results and analysis section includes an evaluation of the realism of the stimulus by a condition that indicates the additional images also differed by perceived realism.

Within each condition, there were four model options and two textual content options; stimulus sampling was motivated by a desire to avoid effects based on a single, specific message or the person pictured (Wells & Windschitl, 1999). The positions of the figures relative to each other and the positions of the black box varied as well, based practically on each photo. Examples of stimuli are available upon request from the author.

Instrument

The items included in the instrument were measured using a 7-point Likert scale unless otherwise indicated. Table 2 that follows this section includes means, standard deviations, and alpha values for scales.

Measures of Manipulated Variables

The discussion of measures of manipulated variables includes an overview of dimensional realism, realism composite, and dimensional media motivation measures.

Dimensional Realism. This construct was measured using several subscales to represent typicality, plausibility, and narrative consistency per the recommendation of both Cho et al. (2014) and Hall (2003). The seventeen (17) specific items were adjusted from Cho et al. (2014). An example of the typicality is “This media content portrayed an event that happens to a lot of people.” “This media content showed something that could possibly happen in real life” provides an example of a plausibility item. And an example of narrative consistency is, “The story portrayed in this media content was consistent.”

Realism Composite. Additionally, realism was measured within the control group and treatment group using four (4) items. One intended to measure each dimension named above and one measuring factuality of parenting content online, “I think online

content represents a factual experience of working from home with kids.” The treatment groups also responded to these items relative to content exposure.

Dimensional Media Motivation. The 17 items to measure dimensional motivation were drawn and adapted from several tests of the relationships between motivations for media use or media type and social outcomes (Janicke & Oliver, 2017; N. Lewis & Weaver, 2019; Oliver & Bartsch, 2010; Oliver & Woolley, 2010; Schneider et al., 2019; Tamborini et al., 2011; Wang, 2019). The dimensions include hedonic or pleasurable (e.g., “I find this media content simple, but enjoyable because it is fun.”), eudaimonic or appreciated (e.g., “This media content challenges my way of seeing the world.”), and relational or social (e.g., “When I engaged with this media content, I felt close to other people.”). These measures were designed to extend the concept of uses and gratifications, suggesting that certain media types fulfill certain motivations or desires, i.e., pleasure, appreciation, or social.

Dependent Variables

This section describes the dependent variables included in the questionnaire.

Warmth. This dimension of the stereotype content model was measured with three items based on Cuddy et al.'s (2008) work, for example, “Most employed moms seem sincere.”

Competence. This dimension of the stereotype content model was measured with three items based on Cuddy et al.'s (2008) work, for example, “Most employed moms seem like hard workers.”

Fairness. These two (2) items were included based on the principles of threats to reciprocity presented by denigrated outgroups per the socio-functional perspective

(Cottrell & Neuberg, 2005), for example, “I think most employed moms contribute to the workplace about as much as other workers in [white/blue] collar professions.”

Severity of Threat to Trajectory. This construct was measured with a single item assessing the perceived impact on their life if it were more like that of an employed mom; the response ranged from much worse to much better. This response was recoded such that a higher number (1-7) indicates a higher threat. This question was based on the stigma-oriented EPPM (R. A. Smith et al., 2007).

Plausibility of Identity Shift. This construct was measured with a single item assessing whether the participant could easily end up living like an employed mom (Witte, 1992).

False Superior Pity. A shortened, four-item version of Florian et al.'s (1999) scale measured feelings of pity toward the target. For example, “I am more fortunate than this person.”

Affective Response. Several frameworks inform which affective responses the instrument assessed. Following the BIAS Map (Cuddy et al., 2007), this measure includes degrees of feeling pity, contempt, admiration, and envy. Additionally, this measure included sympathy and concern as indicators of which pity expression may be associated with the stimulus (Florian et al., 1999).

Collective Efficacy. An adapted version of Smith et al.'s (2007) three-item measure to assess participants' perceptions of community willingness and ability to assist working mothers, e.g., “Members of my community are willing to join in and do their share of the work to help working mothers.”

Policy. Policies include existing policies associated with supporting parents and those supported by working parent advocates (Collins, 2020; Ferrari, 2021). For example, “Free, universal childcare should be available for all children ages 0-4 years.”

Behavioral Intentions. Behavioral intentions refer to an assessment of employment-related behavior in the context of working mothers. Avoidance intentions were measured in terms of avoiding becoming more like working mothers.

Active Facilitation. Behavioral intentions were drawn from the Stereotype Content literature, which assesses employment-related behavior in the context of working mothers (Cuddy et al., 2008; Fiske, 2012). For example, “How likely would you be to promote someone like those who posted these memes?”

Avoidance. These intentions were designed to measure avoidance of becoming more like working mothers and included two items assessing fertility intentions. One item assessed when the participant might want to have children (Never (1) to As soon as Possible (4)), and the other assessed intention to use contraception for the next six months.

Control variables included the demographic and social contact characteristics listed in the description of the participants.

Analysis and Results

The analyses featured below were performed with R v.3.1.4. The first section below provides information on randomization checks by demographic characteristics. The next section provides the means, standard deviations, and standard errors for the outcome variables generally and by condition. Hypothesis testing follows that section.

Balance Check

The first step in checking for balanced randomization by demographic characteristics was to run χ^2 tests to check for a lack of association between the condition and nominal variables. Then an ANOVA tested for lack of relationship between condition and continuous demographics.

Two issues arose in examining these characteristics. First, perhaps unsurprisingly, there was a disproportionate amount of workers in the participant pool who were working either part-time, going to school and working part-time, or some other combination of employment statuses other than full-time in the serious, informal condition. However, the cell numbers were low enough for these groups that this disproportion was expected. Correlation analysis with outcome variables indicates that employment status was only significantly correlated with perceived competence and that this relationship was weak ($-0.13, p=.024$). Second, the racial makeup of the sample was not reflective of the population, limiting the extent to which subsequent results can be generalized to the population. The binarily coded race variable was correlated with the intention to use contraception, but this correlation was weak ($0.11, p=.044$). These issues are not expected to be problematic during hypothesis testing.

Regarding the continuous characteristics of the sample, the percentage of moms with whom the participants work was higher among participants in the serious content, low realism condition. Correlation analysis indicates that the percentage of moms is only significantly correlated with the outcome variable intention to use birth control and that the correlation is weak ($-0.11, p=.053$).

Descriptive Statistics

The means, standard deviations, standard errors, and alpha values as appropriate for all measured variables are included in Table 23. Although they are listed below, variables related to the stigma-oriented EPPM (i.e., the severity of the threat, the plausibility of identity shift, and collective efficacy) will be examined in future work, as will whether various affective responses mediate warmth and competence per the theory. These analyses lie outside the scope of the present paper.

Table 23

Descriptive Statistics of Measured Variables

Variable	M(SD)	SE	α
Realism Composite (4-items)	4.87(1.39)	0.07	0.95
Dimensional Realism	5.45(0.86)	0.05	0.92
Plausibility	5.83(0.88)	0.05	0.84
Typicality	5.12(1.09)	0.06	0.78
Narrative Consistency	5.28(1.00)	0.06	0.83
Perceptual Quality	5.47(1.28)	0.07	-
Dimensional Enjoyment	4.02(1.19)	0.06	0.91
Appreciation	4.08(1.40)	0.07	0.89
Hedonic enjoyment	3.82(1.81)	0.09	0.96
Relational Enjoyment	4.24(1.24)	0.06	0.79
Single-item enjoy	4.08(1.72)	0.10	-
Bias and Prejudice Perceptions			
Fair contribution white collar	5.99(1.09)	0.05	-
Fair contribution blue collar	6.03(1.00)	0.05	-
Warmth	5.22(0.90)	0.05	0.59
Competence	6.04(0.85)	0.04	0.75
Severity of Threat to Trajectory (2 items)	3.28(0.84)	0.04	-
Single-item Plausibility of Identity Shift	3.76(1.97)	0.10	-

Variable	M(SD)	SE	α
False Superior Pity	3.54(1.27)	0.06	0.82
Collective Efficacy	4.71(1.18)	0.06	0.85
Affective Responses			
Sympathy	4.13(1.77)	0.09	-
Pity (single-item)	2.29(1.51)	0.08	-
Concern	2.96(1.61)	0.08	-
Admiration	4.79(1.80)	0.09	-
Contempt	1.53(1.19)	0.06	-
Envy	1.49(0.97)	0.05	-
Disgust	1.16(0.66)	0.03	-
Support			
Policy Support	5.84(1.13)	0.06	0.92
Promotion Intention	4.14(1.60)	0.09	-
Acceptance of Trajectory			
Have Kids (Scale 1 to 4; 1:Never and 4: As soon as possible)	1.97(0.95)	0.05	-
Rejection of Trajectory			
Contraceptive Intention next six months	5.24(2.19)	0.11	-
Self-Compassion	4.08(1.16)	0.06	0.84

Notes. Scales are Likert-type scales increasing in level of agreement (1: Strongly Disagree; 7: Strongly Agree) unless otherwise indicated.

Table 24 includes the same means, standard deviations, and standard errors for all measured variables by experimental condition. F-tests were performed to indicate whether these means differed by condition; if so, significance is indicated in the table.

Table 24*Outcome Descriptive Statistics by Condition*

Characteristic	Control (n=78)		Light, Informal (n=79)		Light, Staged (n=77)		Serious, Informal (n=77)		Serious, Staged (n=80)	
	M(SD)	SE	M(SD)	SE	M(SD)	SE	M(SD)	SE	M(SD)	SE
Realism Composite (4-items)***	3.61(1.33)	0.15	5.58(0.86)	0.10	5.01(1.13)	0.13	5.30(1.37)	0.16	4.85(1.32)	0.15
Dimensional Realism (composite x items)***	-	-	5.79(0.60)	0.07	5.33(0.71)	0.08	5.55(0.99)	0.11	5.15(0.95)	0.11
Plausibility**	-	-	6.12(0.63)	0.07	5.80(0.82)	0.09	5.83(0.92)	0.10	5.58(1.02)	0.11
Typicality**	-	-	5.37(0.89)	0.10	4.77(0.99)	0.11	5.27(1.17)	0.13	5.05(1.18)	0.13
Narrative Consistency***	-	-	5.65(0.68)	0.08	5.19(0.89)	0.10	5.47(1.12)	0.13	4.82(1.09)	0.12
Perceptual Quality***	-	-	6.05(0.78)	0.09	5.38(1.16)	0.13	5.45(1.47)	0.17	5.01(1.40)	0.16
Dimensional Enjoyment***	5.27(0.74)	0.08	4.13(0.96)	0.11	3.76(1.25)	0.14	3.53(1.09)	0.12	3.43(0.83)	0.12
Appreciation***	5.28(1.01)	0.11	3.33(1.05)	0.12	3.06(1.22)	0.14	4.39(1.39)	0.16	4.34(1.07)	0.12
Hedonic enjoyment***	5.38(0.97)	0.11	4.77(1.35)	0.15	4.28(1.65)	0.19	2.40(1.36)	0.16	2.30(1.12)	0.12
Relational Enjoyment***	5.08(1.06)	0.12	4.40(1.07)	0.12	4.02(1.33)	0.15	3.94(1.25)	0.14	3.75(1.05)	0.12
Single-item enjoy***	-	-	4.71(1.48)	0.17	4.35(1.78)	0.21	3.51(1.78)	0.20	3.76(1.54)	0.17
Bias and Prejudice Perceptions										
Fair contribution white collar	5.99(1.10)	0.12	6.15(1.01)	0.11	6.01(0.99)	0.11	5.73(1.24)	0.14	6.06(1.05)	0.12
Fair contribution blue collar	6.00(0.99)	0.11	6.22(0.84)	0.09	6.03(1.04)	0.12	5.81(1.21)	0.14	6.08(0.88)	0.10
Warmth	5.27(0.91)	0.10	5.35(0.86)	0.10	5.21(0.88)	0.10	5.06(1.03)	0.12	5.21(0.79)	0.09
Competence	6.12(0.72)	0.08	6.09(0.84)	0.09	5.98(0.73)	0.08	5.93(1.10)	0.12	6.08(0.80)	0.09
Severity of Threat to Trajectory	3.17(0.83)	0.09	3.40(0.67)	0.08	3.44(0.79)	0.09	3.14(1.02)	0.12	3.24(0.82)	0.09
Plausibility of Identity Shift	3.26(1.83)	0.21	4.03(1.99)	0.22	3.81(1.89)	0.21	3.82(2.03)	0.23	3.90(2.07)	0.23

Characteristic	Control (n=78)		Light, Informal (n=79)		Light, Staged (n=77)		Serious, Informal (n=77)		Serious, Staged (n=80)	
False Superior Pity**	3.39(1.25)	0.14	3.35(1.17)	0.13	3.27(1.28)	0.15	3.86(1.32)	0.15	3.80(1.22)	0.14
Collective Efficacy	4.91(0.98)	0.11	4.85(1.21)	0.14	4.58(1.02)	0.12	4.72(1.44)	0.16	4.52(1.18)	0.13
Affective Responses										
Sympathy**	3.90(1.90)	0.22	4.27(1.66)	0.19	3.62(1.63)	0.19	4.58(1.86)	0.21	4.25(1.69)	0.19
Pity (single-item)	2.27(1.66)	0.19	2.28(1.43)	0.16	2.03(1.29)	0.15	2.35(1.53)	0.17	2.52(1.62)	0.18
Concern***	2.77(1.49)	0.17	2.67(1.52)	0.17	2.47(1.44)	0.16	3.70(1.76)	0.20	3.19(1.56)	0.17
Admiration	4.62(1.68)	0.19	4.90(1.78)	0.20	4.64(1.91)	0.22	5.03(1.91)	0.22	4.79(1.75)	0.20
Contempt	1.56(1.26)	0.14	1.66(1.24)	0.14	1.35(0.94)	0.11	1.68(1.33)	0.15	1.40(1.12)	0.13
Envy	1.73(1.22)	0.14	1.34(0.80)	0.09	1.44(0.91)	0.10	1.43(0.82)	0.09	1.51(1.03)	0.12
Disgust	1.17(0.71)	0.08	1.14(0.42)	0.05	1.06(0.25)	0.03	1.31(0.53)	0.12	1.11(0.53)	0.06
Support										
Policy Support	5.79(1.17)	0.13	6.00(0.92)	0.10	5.79(1.09)	0.12	5.69(1.34)	0.15	5.90(1.08)	0.12
Promotion Intention	-	-	4.19(1.52)	0.17	4.09(1.49)	0.17	4.12(1.84)	0.21	4.18(1.55)	0.17
Acceptance of Trajectory										
Have Kids Intention	1.87(0.92)	0.10	1.94(0.88)	0.10	2.05(1.04)	0.12	1.97(0.96)	0.11	2.00(0.97)	0.11
Rejection of Trajectory										
Contraceptive Intention	5.46(2.22)	0.25	5.25(2.19)	0.25	4.87(2.25)	0.26	5.12(2.29)	0.26	5.48(1.99)	0.22
Self-Compassion	4.12(1.23)	0.14	4.16(1.24)	0.14	4.00(1.01)	0.12	4.13(1.28)	0.15	3.97(1.03)	0.11

Notes: Intention to have kids was measured on a scale of 1 to 4, with 1 being ‘Never’ and 4 being ‘As soon as possible’.

Hypothesis Testing

Tests of hypotheses were performed in R version 3.1.4, using the `lm` function, `emmeans` function, and the Hayes Process macro function. The `lm` function applies OLS regression to specified models, and the `process` function runs mediation models based on OLS parameters. The `emmeans` function with the pairwise indicator provides planned comparisons of means by condition and model parameters.

Hypothesis 1. Appreciation will mediate the relationship between condition and policy support such that serious content predicts higher appreciation, which in turn predicts higher policy support.

Research Question 1: Will hedonic enjoyment mediate the relationship between content type and policy support?

In this case, the hypothesis and the research question were tested together due to the theorized relationship between these responses to media, that they co-occur with each other (Oliver & Raney, 2011).

As a precursor to mediation analyses, OLS regression tested the relationships between content type and both appreciation and hedonic enjoyment. The results of an OLS regression model predicting media appreciation support the hypothesis that more serious content predicts higher appreciation (see Table 25).

Table 25

Regression Results Using Appreciation for Media as the Criterion

Predictor	<i>b</i>	<i>sr</i> ²	SE	<i>t</i>
(Intercept)	2.66**		0.60	4.97
Serious (EMM=4.20) Ref: Light (EMM=3.08)	1.11**	.16	0.14	8.05
Staged Ref: Informal	-0.09	.00	0.14	-0.89
Age	0.01	.00	0.01	1.50
Income	0.00	.00	0.00	0.88
Political Ideology	-0.04	.00	0.06	-1.10
Endorsement	0.00	.00	0.06	0.23
Woman Ref: Not Woman	0.23	.01	0.14	1.87
Asian Ref: White	-0.03	.00	0.21	-0.40
Black or African American Ref: White	0.14	.00	0.39	0.44
Other or Mixed Race Ref: White	-0.13	.00	0.25	-0.78
Neither Hispanic nor Latine/a/o/x Ref: Hispanic or Latine/a/o/x	-0.04	.00	0.24	-0.24
Single Ref: Not Single	-0.09	.00	0.15	-0.39
Not Employed Full Time: Employed Full Time	0.09	.00	0.16	0.06
More than Bachelor Ref: Less than a Bachelor	0.01	.00	0.16	0.04
Independent Ref: Democrat	-0.28	.01	0.17	-1.68
Republican Ref: Democrat	-0.56	.01	0.29	-1.95

Predictor	<i>b</i>	<i>sr</i> ²	SE	t
Did not work remote Ref: Always worked Remote	-0.02	.00	0.17	-0.05
Worked Remote Part of the time Ref: Always Worked Remote	0.22	.00	0.17	1.26
Mom Co-Workers	0.00	.00	0.00	0.17
Dad Co-Workers	0.00	.01	0.00	1.77
<i>R</i> ² = .260**				
95% CI[.12,.28]				
F(20,289) = 5.07				

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Residual standard error: 1.179 on 289 degrees of freedom* indicates *p* < .05. ** indicates *p* < .01.

The second OLS regression model results also support the first relationship described in the hypothesis that light material will predict higher hedonic enjoyment than serious material (see Table 26).

Table 26

Regression Results Using Hedonic Enjoyment as the Criterion

Predictor	<i>b</i>	<i>sr</i> ²	SE	t
(Intercept)	4.62**		0.65	7.48
Serious (EMM=2.06) Ref: Light (EMM=4.25)	-2.20**	.39	0.15	-14.45
Staged Ref: Informal	-0.13	.00	0.15	-1.03
Age	0.02*	.01	0.01	2.19
Income	0.00	.00	0.00	0.53
Political Ideology	-0.10	.01	0.06	-1.91
Endorsement	-0.01	.00	0.07	-0.05
Woman Ref: Not Woman	0.00	.00	0.16	0.00
Asian	-0.14	.00	0.23	-0.75

Predictor	<i>b</i>	<i>sr</i> ²	SE	<i>t</i>
Ref: White				
Black or African American	0.09	.00	0.42	0.26
Ref: White				
Other or Mixed Race	-0.18	.00	0.27	-0.86
Ref: White				
Neither Hispanic nor Latine/a/o/x	0.28	.00	0.26	1.09
Ref: Hispanic or Latine/a/o/x				
Single	-0.11	.00	0.16	-0.60
Ref: Not Single				
Not Employed Full Time:	0.10	.00	0.17	0.21
Employed Full Time				
More than Bachelor	-0.35*	.01	0.17	-2.06
Ref: Less than a Bachelor				
Independent	-0.54**	.02	0.18	-2.98
Ref: Democrat				
Republican	-0.91**	.02	0.31	-2.89
Ref: Democrat				
Did not work remote	-0.17	.00	0.19	-0.89
Ref: Always worked Remote				
Worked Remote Part of the time	-0.07	.00	0.19	-0.38
Ref: Always Worked Remote				
Mom Co-Workers	0.00	.00	0.00	0.50
Dad Co-Workers	0.00	.00	0.00	1.60
<i>R</i> ² = .453**				
95% CI[.34,.49]				
F(18,291)=13.38				

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Residual standard error: 1.287 on 291 degrees of freedom. *indicates *p* < .05. ** indicates *p* < .01.

The results of each OLS regression model testing the relationship between content type and appreciation (see Figure 9) and hedonic enjoyment (see Figure 10) are

visualized below. The visualizations clarify that the condition's influence on appreciation and enjoyment was driven by content type, not image realism and that the difference by content type was more distinct in terms of hedonic enjoyment.

Figure 9

Appreciation by Content Type

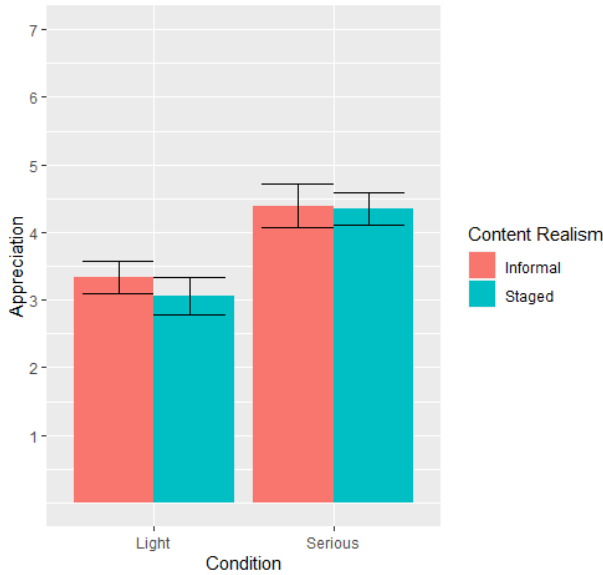
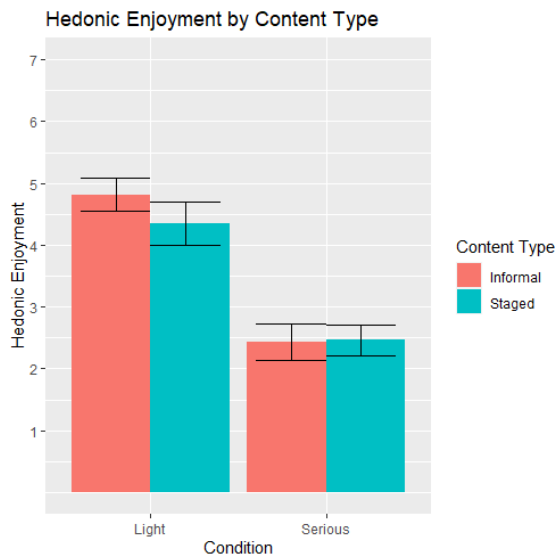


Figure 10

Hedonic Enjoyment by Content Type



Next, the content type was coded as a binary numeric predictor in the Hayes mediation Process function for r . One (1) represents serious content in these models, and zero (0) represents lighter content. First, as diagramed in Figure 5, content type influenced appreciation ($a_1 = 1.16$, $p < .001$) and hedonic enjoyment ($a_2 = -2.15$, $p < .001$). This relationship is captured more clearly in the OLS regression results presented above. The negative relationship indicated on the a_1 path suggests that as content moved toward the serious category, its relationship with hedonic enjoyment decreased, as expected.

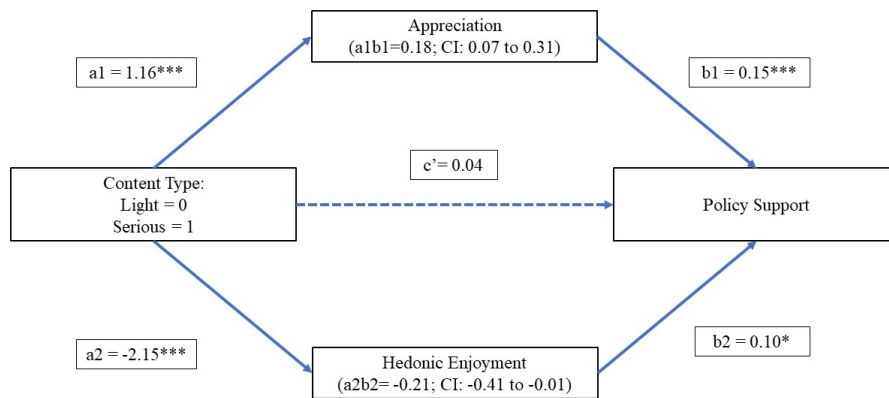
A 95% bias-corrected confidence interval based on 10,000 bootstrap samples indicated that the indirect effect through appreciation ($a_1 b_1 = 0.18$), holding all other mediators constant, was entirely above zero (0.066 to 0.3051). The confidence intervals (-0.410 to -0.012) indicate a negative indirect effect of the condition mediated by hedonic enjoyment ($a_2 b_2 = -0.21$). This negative influence indicates that compared with the pathway from serious content through appreciation, the pathway from serious content through hedonic enjoyment negatively influences policy support. The direct relationship through hedonic enjoyment is positive on policy support but small, so its influence is relatively negative to that of serious content and appreciation.

Condition alone did not directly influence policy support ($c' = 0.04$, $se = 0.11$, $t = 0.41$, $p = .685$).

Results from a parallel mediation analysis supported hypothesis 1 and provided a positive response for research question one; the content type was indirectly related to policy support through its relationship with dimensional entertainment subscales of appreciation and hedonic enjoyment (see Figure 11).

Figure 11

Mediation Model of Content-Type and Policy Support Through Needs Met



Mediation Model: Indirect Effect of Content Type on Policy through Hedonic Enjoyment and Appreciation

Notes. Dashed lines indicate the relationship did not meet the threshold for 95% significance. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$

Hypothesis 2. *Warmth will mediate the relationship between appreciation and policy support, such that appreciation will be associated with increased warmth, and warmth will, in turn, predict policy support.*

The x value must predict the mediator as a precursor to mediation analyses.

Regressing warmth onto both content type and realism conditions revealed a lack of significant relationship between condition and warmth ($F(19, 290)=1.76, p=0.03, R^2=0.10, b=-0.17, se=0.10, p=.088$). However, to serve the broader goal of understanding how message effects influence the stereotype content model, mediation analysis explored the relationship among measured variables. The predictive order matches the order in which the constructs were measured.

The relationship between measured appreciation and warmth was evaluated through OLS regression modeling as a precursor to mediation analysis. The model

included measured appreciation in addition to demographic covariates. The model results indicate that content type predicts pity (see Table 27).

Table 27

Regression Results Using Warmth as the Criterion and Appreciation as Predictor

Predictor	<i>b</i>	<i>sr</i> ²	SE	t
(Intercept)	4.58**		0.44	10.40
Appreciation	0.20**	.08	0.4	5.22
Age	-0.01	.00	0.01	-1.25
Income	0.00	.00	0.00	0.01
Political Ideology	0.06	.01	0.04	1.43
Endorsement	-0.01	.00	0.04	-0.20
Woman	-0.08	.00	0.11	-0.74
Ref: Not Woman				
Asian	-0.41**	.02	0.15	-2.77
Ref: White				
Black or African American	-0.29	.00	0.27	-1.05
Ref: White				
Other or Mixed Race	-0.21	.00	0.17	-1.18
Ref: White				
Neither Hispanic nor Latine/a/o/x	0.20	.00	0.17	1.24
Ref: Hispanic or Latine/a/o/x				
Single	-0.04	.00	0.10	-0.37
Ref: Not Single				
Not Employed Full Time:	-0.06	.00	0.11	-0.57
Employed Full Time				
More than Bachelor	-0.09	.00	0.11	-0.83
Ref: Less than a Bachelor				
Independent	0.00	.00	0.12	0.03
Ref: Democrat				
Republican	-0.10	.00	0.20	-0.48
Ref: Democrat				

Did not work remote	-0.21	.01	0.12	-1.70
Ref: Always worked Remote				
Worked Remote Part of the time	-0.09	.00	0.12	-0.74
Ref: Always Worked Remote				
Mom Co-Workers	0.01**	.02	0.00	2.78
Dad Co-Workers	-0.00*	.01	0.00	-2.22

$R^2 = .172^{**}$

95% CI[.05,.20]

F(19,290) = 3.17

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. sr^2 represents the semi-partial correlation squared Residual standard error: 0.8289 on 290 degrees of freedom. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$.

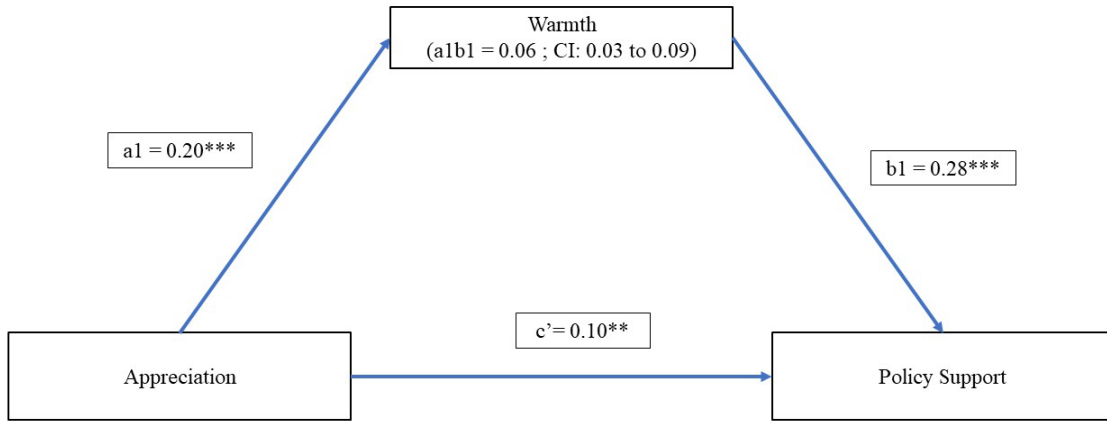
First, as diagramed in Figure 12, appreciation influenced warmth ($a = .20, p < .001$).

This relationship is described more completely in the OLS regression results presented above.

A 95% bias-corrected confidence interval based on 10,000 bootstrap samples indicated that the indirect effect of appreciation through warmth ($ab = 0.06$) on policy was entirely above zero (0.03 to 0.09). Appreciation also influences policy support directly ($c' = .10, se = 0.04, t = 2.62, p = .009$).

Figure 12

Mediation Model of Appreciation and Policy Support Through Warmth



Mediation Model: Indirect Effect of Appreciation on Policy Support through Warmth

Notes. Dashed lines indicate the relationship did not meet the threshold for 95% significance. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$

Thus, the hypothesis that appreciation would indirectly affect policy support through warmth was partially supported. The operationalization based on the condition was insignificant. However, measured perceptions support this hypothesis indicating a partial mediation effect from appreciation through warmth.

Hypothesis 3. Hedonic enjoyment will positively influence warmth(a).

The first step in this analysis is identical to the previous (competing) hypothesis, but neither condition positively influenced warmth above the other. However, in the interest of understanding how message effects may function as an antecedent to the stereotype content model, warmth was regressed onto hedonic enjoyment perceptions.

The relationship between measured appreciation and warmth was evaluated through OLS regression modeling as a precursor to mediation analysis. The model

included measured hedonic enjoyment in addition to demographic covariates. The model results indicate that content type predicts pity (see Table 28).

Table 28

Regression Results Using Warmth as the Criterion and Hedonic Enjoyment as Predictor

Predictor	<i>b</i>	<i>sr</i> ²	SE	T
(Intercept)	4.80**		0.43	11.23
Hedonic enjoyment	0.16**	.08	0.03	5.46
Age	-0.01	.01	0.01	-1.46
Income	0.00	.00	0.00	0.14
Political Ideology	0.04	.00	0.04	0.92
Endorsement	0.02	.00	0.04	0.53
Woman	-0.05	.00	0.11	-0.50
Ref: Not Woman				
Asian	-0.37*	.02	0.15	-2.48
Ref: White				
Black or African American	-0.27	.00	0.27	-0.98
Ref: White				
Other or Mixed Race	-0.18	.00	0.17	-1.04
Ref: White				
Neither Hispanic nor Latine/a/o/x	0.06	.00	0.17	0.38
Ref: Hispanic or Latine/a/o/x				
Single	-0.11	.00	0.10	-1.04
Ref: Not Single				
Not Employed Full Time:	-0.10	.00	0.11	-0.93
Employed Full Time				
More than Bachelor	-0.05	.00	0.11	-0.43
Ref: Less than a Bachelor				
Independent	-0.00	.00	0.12	-0.02
Ref: Democrat				
Republican	-0.16	.00	0.20	-0.81
Ref: Democrat				

Predictor	<i>b</i>	<i>sr</i> ²	SE	T
Did not work remote Ref: Always worked Remote	-0.18	.01	0.12	-1.47
Worked Remote Part of the time Ref: Always Worked Remote	-0.05	.00	0.12	-0.44
Mom Co-Workers	0.01**	.03	0.00	3.47
Dad Co-Workers	-0.00*	.01	0.00	-2.18
<i>R</i> ² = .179**				
95% CI[.06,.21]				
F(19,290) = 3.32				

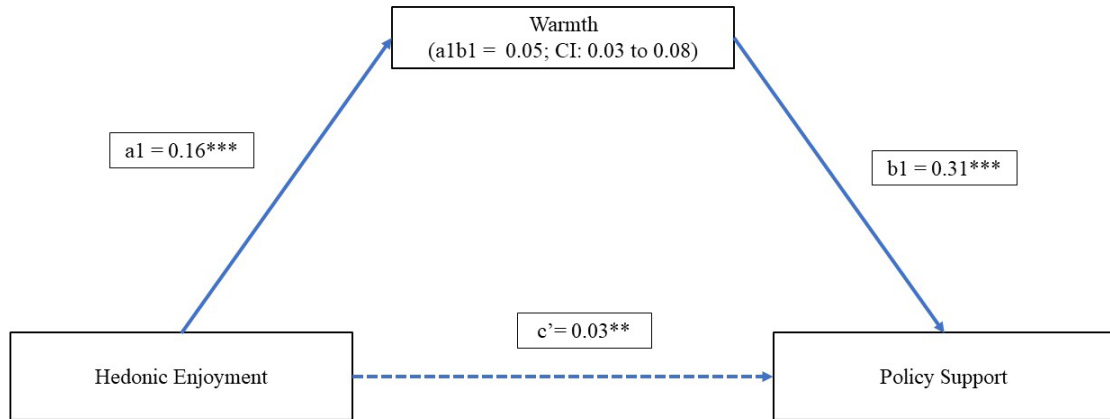
Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared Residual standard error: 0.8255 on 290 degrees of freedom* indicates *p* < .05. ** indicates *p* < .01. *** indicates *p* < .001.

First, as diagramed in Figure 12, hedonic enjoyment influenced warmth (*a*=.20, *p*<.001). This relationship is described more completely in the OLS regression results presented above. Warmth influenced policy support (*b*₁=0.31, *p*<.001).

A 95% bias-corrected confidence interval based on 10,000 bootstrap samples indicated that the indirect effect of hedonic enjoyment through warmth (*ab* = 0.05) on policy was entirely above zero (0.03 to 0.08). Hedonic enjoyment does not influence policy support directly (*c*'=.03, *se*=0.03, *t*=1.03, *p*=.302).

Figure 13

Mediation Model of Indirect Effect of Hedonic Enjoyment on Policy Support through Warmth



Mediation Model: Indirect Effect of Hedonic Enjoyment on Policy Support through Warmth

Notes. Dashed lines indicate the relationship did not meet the threshold for 95% significance. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$

Similar to the previous hypothesis, the indirect relationship between hedonic enjoyment and policy support through warmth received support based on measured variable operationalization. In contrast to appreciation, hedonic enjoyment does not directly affect policy support with warmth in the model; this provides some support for concern that finding pleasure in the content may lead to not taking the issue seriously.

Hypothesis 4: *Imagery realism will moderate the influence of content type on policy support such that when content is serious, high realism (i.e., informal imagery) will increase policy support compared with light, low realism.*

Within Experiment Manipulation Check

An additional within-experiment manipulation check indicated that the staged images were evaluated as less realistic than the informal images by the participants (see Table 29).

Table 29

Within Experiment Realism Manipulation Check: Regression Results Using Typicality, Plausibility, and Narrative Consistency as the Criteria

Predictor	<i>Typicality</i>		<i>Plausibility</i>		<i>Narrative Consistency</i>	
	<i>B</i>	<i>sr²</i>	<i>b</i>	<i>sr²</i>	<i>b</i>	<i>sr²</i>
(Intercept)	4.81**		5.08**		4.57**	
Staged Imagery Ref: Informal Imagery	-0.34**	.02	-0.27**	.02	-0.55**	.07
Age	0.01	.00	0.01	.01	0.02*	.01
Income	0.00	.00	0.00	.01	0.00	.01
Political Ideology	0.06	.00	0.05	.01	0.09*	.01
Endorsement	-0.01	.00	0.01	.00	-0.01	.00
Woman Ref: Not Woman	0.39**	.03	0.13	.01	0.18	.01
Asian Ref: White	0.05	.00	-0.10	.00	-0.01	.00
Black or African American Ref: White	-0.04	.00	-0.36	.01	-0.01	.00
Other or Mixed Race Ref: White	0.03	.00	0.23	.01	0.21	.00
Neither Hispanic nor Latine/a/o/x	-0.26	.00	0.24	.01	-0.07	.00

Predictor	<i>Typicality</i>		<i>Plausibility</i>		<i>Narrative Consistency</i>	
	<i>B</i>	<i>sr</i> ²	<i>b</i>	<i>sr</i> ²	<i>b</i>	<i>sr</i> ²
Ref: Hispanic or Latine/a/o/x						
Single	0.01	.00	0.03	.00	0.07	.00
Ref: Not Single						
Not Employed Full Time:	-0.03	.00	0.03	.00	0.03	.00
Employed Full Time						
More than Bachelor	0.13	.00	-0.01	.00	-0.19	.01
Ref: Less than a Bachelor						
Independent	0.06	.00	-0.13	.00	0.01	.00
Ref: Democrat						
Republican	-0.85**	.03	-0.60**	.03	-0.51*	.01
Ref: Democrat						
Did not work remote	-0.15	.00	-0.12	.00	-0.07	.00
Ref: Always worked Remote						
Worked Remote Part of the time	-0.04	.00	0.05	.00	0.04	.00
Ref: Always Worked Remote						
Mom Co-workers	0.00	.00	0.00	.00	0.00	.00
Dad Co-workers	0.00	.00	0.00	.00	0.00	.00
	<i>R</i> ² = .167**		<i>R</i> ² = .133***		<i>R</i> ² = .166**	
	95% CI: [.05,.20]		95% CI: [.03,.16]		95% CI: [.05,.20]	
	F(17,292)=3.45		F(17,292)= 2.65		F(17,292)= 3.41	

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Residual standard error typicality: 1.011 on 292 degrees of freedom. Residual standard error plausibility: 0.8363 on 292 degrees of freedom. Residual standard error narrative consistency: 0.9442 on 292 degrees of freedom. * indicates p < .05. ** indicates p < .01 ***indicates p<.001.

Hypothesis 4 was tested using OLS regression with an interaction term representing content type by imagery realism as the predictor and the demographic and psychographic variables described in participant characteristics as covariates. The data for this analysis was subset to exclude control participants, as this group was irrelevant to this hypothesis. The data did not support the hypothesis that a combination of serious content and realistic, informal imagery would increase threat perceptions compared with light content and staged imagery ($F(21,288)=1.77$, $R^2=0.11$, $b=-.11$, $se=.29$, $t=-0.37$, $p=0.711$).

The data did not support the hypothesis that the realism manipulation would enhance the influence of serious content and diminish the influence of lighter content on policy support (see Table 30). The interaction term was not significant.

Table 30

Regression Results Using Policy Support as the Criterion

Predictor	<i>b</i>	<i>sr</i> ²	SE	t
(Intercept)	4.42**		0.46	9.97
Serious Ref: Light	-0.19	.00	0.15	-1.20
Staged Ref: Informal	-0.19	.00	0.15	-1.40
Age	-0.01	.01	0.01	-1.67
Income	0.00	.00	0.00	0.33
Political Ideology	0.40**	.19	0.04	9.50
Endorsement	0.04	.00	0.04	0.95
Woman Ref: Not Woman	-0.01	.00	0.11	0.25
Asian Ref: White	-0.16	.00	0.16	-1.12
Black or African American Ref: White	-0.42	.00	0.29	-1.38

Predictor	<i>b</i>	<i>sr</i> ²	SE	<i>t</i>
Other or Mixed Race Ref: White	-0.41*	.01	0.19	-2.28
Neither Hispanic nor Latine/a/o/x Ref: Hispanic or Latine/a/o/x	-0.23	.00	0.18	-1.42
Single Ref: Not Single	0.06	.00	0.11	0.66
Not Employed Full Time: Employed Full Time	-0.12	.00	0.12	-1.11
More than Bachelor Ref: Less than a Bachelor	-0.07	.00	0.12	-0.59
Independent Ref: Democrat	-0.00	.00	0.12	-0.03
Republican Ref: Democrat	-0.44*	.01	0.22	-2.15
Did not work remote Ref: Always worked Remote	-0.08	.00	0.13	-0.46
Worked Remote Part of the time Ref: Always Worked Remote	-0.09	.00	0.13	-0.70
Mom Co-workers	0.00	.00	0.00	1.27
Dad Co-workers	-0.00	.00	0.00	-0.24
Content type by Image Realism	0.35	.01	0.21	1.66
<i>R</i> ² = .399**				
95% CI[.27,.43]				
F(21,288)=9.12				

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Residual standard error: 0.8859 on 290 degrees of freedom * indicates *p* < .05. ** indicates *p* < .01.

Hypothesis 5. *Pity will mediate the relationship between content type and behavioral intentions. Light content will predict lower pity, serious content will predict higher pity, and pity will, in turn, positively predict avoidant behavior (i.e., higher contraceptive use, lower intention to have kids soon).*

As a reminder, there were three measures of behavior as outcomes in this study, one asked whether the participant would promote someone like the person who posted

the content they read, and another asked if they intended to have kids never very soon (on a scale of 1 to 4). The last asked about their intention to use contraception over six (6) months. The second two items are operationalizations of avoidant behavior to avoid becoming more like the denigrated group member. The first would be classified as active facilitation of the group member and was not included in this hypothesis test.

The relationship between content type and pity was evaluated through OLS regression modeling as a precursor to mediation analysis. The model included content type in addition to demographic covariates. The model results indicate that content type predicts pity (see Table 31).

Table 31

Regression Results Using False Superior Pity as the Criterion

Predictor	<i>b</i>	<i>sr</i> ²	SE	t
(Intercept)	2.39***		0.62	3.99
Serious Text (EMM=3.44) Ref: Light Text (EMM=2.90)	0.53***	.04	0.15	3.68
Age	-0.01	.00	0.01	-0.68
Income	0.00	.00	0.00	0.78
Political Ideology	0.04	.00	0.06	0.66
Endorsement	0.05	.00	0.06	0.85
Woman Ref: Not Woman	0.11	.00	0.15	0.62
Asian Ref: White	-0.03	.00	0.22	-0.18
Black or African American Ref: White	-0.62	.01	0.41	-1.52
Other or Mixed Race Ref: White	-0.44	.01	0.26	-1.77
Neither Hispanic nor Latine/a/o/x	0.36	.01	0.25	1.51

Predictor	<i>b</i>	<i>sr</i> ²	SE	t
Ref: Hispanic or Latine/a/o/x				
Single	-0.10	.00	0.15	-0.66
Ref: Not Single				
Not Employed Full Time:	0.01	.00	0.16	-0.13
Employed Full Time				
More than Bachelor	0.37*	.02	0.16	2.26
Ref: Less than a Bachelor				
Independent	0.08	.00	0.17	0.46
Ref: Democrat				
Republican	0.04	.00	0.30	0.16
Ref: Democrat				
Did not work remote	-0.09	.00	0.18	-0.56
Ref: Always worked Remote				
Worked Remote Part of the time	-0.03	.00	0.18	-0.19
Ref: Always Worked Remote				
Mom Co-Workers	0.00	.00	0.00	-0.12
Dad Co-Workers	0.00	.00	0.00	0.97
<i>R</i> ² = .113**				
95% CI[.01,.13]				
F(19,290) = 1.94				

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Residual standard error: 1.236 on 292 degrees of freedom. * indicates *p* < .05. ** indicates *p* < .01. *** indicates *p* < .001.

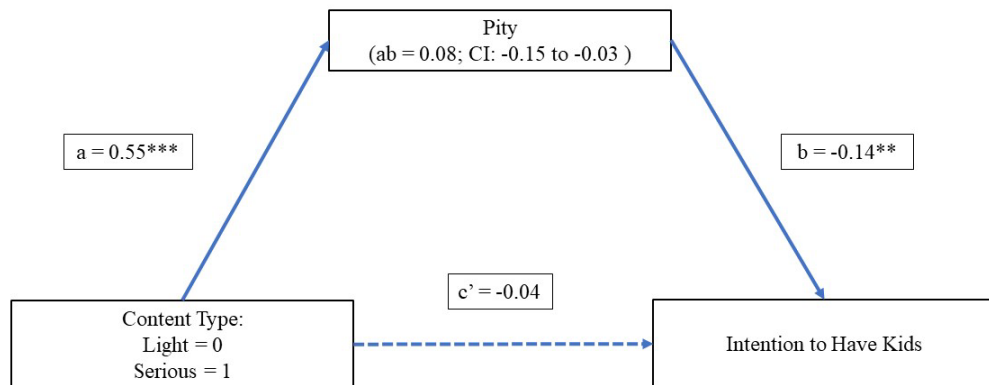
The next stage of analysis of the hypothesis that pity would mediate the influence of condition on avoidant intentions tested the relationships among these variables in two simple mediation models. Content-type operated as the predictor, pity as the mediator, and each avoidant behavior as outcome variables in a Hayes Model 4 mediation analysis.

First, as diagrammed in Figure 14, content type influenced pity ($a=.53, p<.001$). This relationship is captured more clearly in the OLS regression results and estimated marginal means presented above.

A 95% bias-corrected confidence interval based on 10,000 bootstrap samples indicated that the indirect effect through pity ($ab = 0.08$) was entirely below zero (-0.15 to -0.02) Condition alone did not directly intention to have kids ($c'=-0.04, se=0.11, t=-0.35, p=.685$).

Figure 14

Mediation Model of the Indirect Effect of Content Type on Intention to Have Kids Through Pity



Mediation Model: The Indirect Effect of Condition Type on Intention to Have Kids through False Superior Pity

Notes. Dashed lines indicate the relationship did not meet the threshold for 95% significance. * indicates $p<.05$. **indicates $p<.01$. ***indicates $p<.001$

Further, the second model, which predicted contraceptive use did not support an indirect path between condition and behavior through pity ($a1b1=0.1; CI: -0.05$ to 0.11).

The results indicate that pity mediated the relationship between condition and intention to have kids, but not condition and intention to use contraceptives. Thus, this hypothesis received partial support. The influence of the indirect path through pity was exclusive to only one type of measured behavioral intention – how soon the participant wants to have children (see Figure 14).

***Hypothesis 6.** False superior pity will moderate the relationship between competence and policy support. When pity is high, and competence is low, policy support will be higher than when pity is low.*

To evaluate whether false superior pity moderates the influence of competence on policy support, the outcome was regressed onto an interaction term representing the moderation of competence by pity. The results of the OLS regression model ($F(21,288)=12.31$, $p<.001$, $R^2= 0.47$) indicate lack of support for this hypothesis ($b=0.00$, $SE=0.06$, $t=0.01$, $p=.989$).

In a model regressing policy support onto pity, competence, and demographic and sociographic covariates, competence positively predicts policy support (Table 32). This finding suggests that competence represents a positively valenced construct in this context, which is consistent with the literature.

Table 32

Regression Results Using Warmth as the Criterion

Predictor	<i>b</i>	<i>sr</i> ²	SE	<i>t</i>
(Intercept)	2.33**		0.55	4.22
Pity	-0.04	.00	0.04	-1.15
Competence	0.37**	.07	0.06	6.40
Age	-0.01	.00	0.01	-1.62
Income	-0.00	.00	0.00	-0.05
Political Ideology	0.36**	.16	0.04	9.38
Endorsement	0.04	.00	0.04	0.97
Woman				
Ref: Not Woman	-0.02	.00	0.11	-0.24
Asian				
Ref: White	-0.12	.00	0.15	-0.81
Black or African American				
Ref: White	-0.31	.00	0.27	-1.12
Other or Mixed Race				
Ref: White	-0.42*	.01	0.17	-2.39
Neither Hispanic nor Latine/a/o/x				
Ref: Hispanic or Latine/a/o/x	-0.20	.00	0.17	-1.22
Single				
Ref: Not Single	0.04	.00	0.10	0.41
Not Employed Full Time:				
Employed Full Time	-0.14	.00	0.11	-1.3
More than Bachelor				
Ref: Less than a Bachelor	0.01	.00	0.11	0.09
Independent				
Ref: Democrat	0.04	.00	0.12	0.33
Republican				
Ref: Democrat	-0.42*	.01	0.20	-2.11
Did not work remote				
Ref: Always worked Remote	-0.09	.00	0.12	0.73

Predictor	<i>b</i>	<i>sr</i> ²	SE	<i>t</i>
Worked Remote Part of the time Ref: Always Worked Remote	-0.12	.00	0.12	-1.02
Mom Co-Workers	0.00	.00	0.00	0.47
Dad Co-Workers	0.00	.00	0.00	0.37
<i>R</i> ² = .473**				
95% CI[.36,.51]				
F(19,290) = 3.32				

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared Residual standard error: 0.8255 on 290 degrees of freedom* indicates *p* < .05. ** indicates *p* < .01. *** indicates *p* < .001.

Summary of Hypotheses and Results

Table 33 provides a summary of when the data and analyses supported hypotheses.

Table 33

Summary of Hypotheses and Support

	Hypothesis	Level of Support
H1 & RQ1	Appreciation will mediate the relationship between condition and policy support such that serious content predicts higher appreciation, and appreciation predicts policy support.	Supported
	Does Hedonic Enjoyment mediate the relationship between condition and policy support?	Yes
2	Warmth will mediate the relationship between appreciation and policy support, such that appreciation will predict higher warmth, and warmth will predict higher policy support.	Conditional support, if measured variables, not conditions, are predictors.
3	Hedonic enjoyment will positively influence warmth(a).	Conditional support, if measured variables, not conditions, are predictors.
4	Imagery realism will moderate the influence of content type on policy support. When content is	Not supported

	serious, high realism (i.e., informal imagery) will increase policy support compared to light, low realism.	
5	Pity will mediate the relationship between content type and behavioral intentions. Light content will predict lower pity, serious content will predict higher pity, and pity will, in turn, predict avoidant behavior.	Partially supported, predictive of intention to have kids
6	False superior pity will moderate the relationship between competence and policy support. When pity is high, and competence is low, policy support will be higher than when pity is low.	Not supported

Discussion

Working parents, and especially working mothers, were negatively impacted by the added pressure to parent, teach, keep house, and work at optimum levels during a time of crisis (Bauer & Ngondo, 2022; Collins, 2020; Dugan & Barnes-Farrell, 2020; Firestone, 2021; Han & Kuipers, 2021; Quinlan & Johnson, 2020; J. Smith, 2022; “Working Moms Are Not Okay,” 2020). However, a common critique of material analyzed across several previous studies was the lack of attention to the need for structural change (e.g., Bauer & Ngondo, 2022; Han & Kuipers, 2021; O’Reilly, 2020). These studies sought to examine the influence of light and serious materials shared within parenting groups on non-parents willingness to support structural change and their responses to working mothers. Further, this study aims to understand under which circumstances the communication constructs, realism, and motivation for engagement encourage support.

The experimental findings of this study add to the growing literature on elevating media. Responses to the more serious content indicated more appreciation than the lighter content, and participants also found the lighter content more hedonically enjoyable than the serious content. These findings are similar to prior work (Oliver et al., 2021; Oliver &

Raney, 2011). Building on established relationships, motivational fulfillment mediated the relationship between content type and policy support, such that increases in each kind of fulfillment increased policy support. These relationships were generally positive, and policy support overall was high, suggesting that the disclosures in the messages were not considered overly intimate (Saling et al., 2019).

Findings regarding the construct of pity confirm concern of harmful effects when messages are perceived as negatively valenced. False superior pity mediated the relationship between content type and intention to have children, such that more serious content increased pity, decreasing intention to have children. This measure operationalizes a desire for distance from the parenting identity in this study. So, as pity increased, so too did the desire for distance. False superior pity generally remained below a neutral mid-point which, fortunately, indicated the messages were positively perceived overall. Additionally, respondents reported less pity on a single item than on the short scale of false superior pity. This characteristic supports measuring the emotion of pity, which is documented as ambivalent and difficult, with a more nuanced scale (Boleyn–Fitzgerald, 2003; Florian et al., 1999).

Pity did not influence the relationship between competence and policy support as expected. This finding challenges the notion that there is a strong relationship between status assessment, downward comparison, and how competence impacts outcomes. This specific dimension of pity emphasizes social comparison, so it should have captured this effect. However, this relationship test relied on a measure of pity, not manipulation. It may be that a manipulated operationalization exhibits more influence on competence. This null finding challenges the role of pity indicated in the stereotype content model.

The relationships between competence, warmth, and pity have also been inconsistent across other studies. As hypothesized by the BIAS map, Sweetman et al. (2013) examined the indirect effects of warmth and competence perceptions on helping and harming intentions through affective responses to an immigrant group. They found support for the indirect paths through admiration, between warmth and active help, and between competence and passive help. Pity, however, did not mediate the relationship between warmth and active helping. Contrarily, Sadler et al. (2015) found that pity mediated the relationship between warmth and active helping in a mental illness context. Bye and Herrebrøden (2018) found that reduced warmth led to contempt which increased the perceptions of groups receiving active harm. Increased warmth was associated with increased pity which led to active facilitation; in their study, the warmth did not influence admiration. Although a moderation effect made more sense given the particular type of pity measured, competence predicted neither the scale nor the false superior pity index. Thus, it is clear without further analysis that competence does not function indirectly through false superior pity. This lack of relationship adds to the findings regarding affective mediators proposed in the BIAS map (Cuddy et al., 2007), which are less often empirically tested.

Although the realism manipulation appeared to be effective, realism defined by condition did not influence the relationship between content type and policy support as predicted. It was expected that the added incongruity of perfectly staged photos with lighter material would enhance the positive impact of the hedonically enjoyable content. And that the possible authenticity gathered from the informal photos would enhance the influence of the serious condition on policy support. Although the differences between

the stimuli were statistically significant, they may not have been practically different. The measures of realism across the conditions were within about a half-scale point or less of one another.

Mediation analyses provide evidence that, in this context, warmth offers an indirect path of influence between measures of appreciation and policy support and between measures of hedonic enjoyment and policy support. Without benefiting from this indirect path, hedonic enjoyment falls short of influencing policy support. This finding adds to the literature by combining two explanations for prosocial behavior and indicating that they reinforce each other. Stereotype content (Cuddy et al., 2007, 2008) can be added to the growing explanations of how both hedonic and eudaimonic media function toward pro-sociality (e.g., De Ridder et al., 2022; Helen Landmann, 2021; Oliver & Woolley, 2010; Schneider et al., 2019).

From a practical standpoint, this study shows that expressing discontent through humor or sincerity did not harm perceptions of working mothers or damage intention to support structural change. Mize et al. (2021) found that when comparing attitudes about gender roles in parenting before and after the onset of the COVID-19 pandemic, there is a demonstrable shift toward traditional attitudes. Suggesting fears that women will continue to face setbacks due to this period is valid, and it may be beneficial to express the need and desire for structural support to correct the challenges to advancement posed by the pandemic. And the relationships between enjoyment, appreciation, and both stereotype content and policy support suggest that messages more powerful than these stimuli may promote meaningful change.

Limitations and Future Directions

There are several limitations to this study. Much of the analysis relies on cross-sectional data due to a lack of effectiveness of manipulated conditions, and this issue makes causal claims more difficult. Additionally, the issues identified with sample randomization may have confounded the influence of the predictors. The racial and political party makeup and the liberal lean of the sample also limit the generalizability of the findings.

The images used as stimuli include a variety of aesthetics which may have also had an unidentified influence. For example, Kim and Read (2021) found that smiling Instagram promoters were more successful than their toned-down competitors. In this study, women in the unrealistic condition were smiling, whereas those in the realistic conditions had neutral expressions. It could be that any negative influence the less realistic imagery may have had was washed out by a blanket positive response to the smiling faces (Golle et al., 2014; Senft et al., 2016).

Future studies should consider whether the lack of direct effects of the condition is attributable to a dosing issue. This effort might be accomplished via repeated exposures or via a longer message. Additionally, altering the message's narrative trajectory should improve eudaimonic media's prosocial outcomes (Fitzgerald et al., 2020). Future studies could examine the possible mediators between appreciation achieved using that approach and trajectory-oriented measures of threat. Another avenue of future research includes examining the influence of these kinds of media on working mothers in terms of their sense of being discriminated against, empowerment, self-esteem, self-compassion, and deservedness. Future work should also examine whether this group finds the catharsis

(Ask & Abidin, 2018; Flecha Ortiz et al., 2021) documented among the general population or if media designed to uplift reinforces internalized stigma through the idea that you need lifting in the first place. Or if elevating media introduces a more collective attitude and encourages women to hold structural entities more accountable.

Conclusion

The findings from this study offer an additional explanatory mechanism of warmth for the pro-social power of enjoyment and appreciation. In the context of working moms, it seems there is no harm in expressing discontent as they see fit – at least in a single, small dose.

CHAPTER 5: GENERAL DISCUSSION

This dissertation aimed to understand the relationship between disparity information and perceptions of denigrated groups. This problem was approached through the extension of two theoretical lenses on stigma. The first extension was the potential of false superior pity to mediate threat appraisal in the stigma-oriented extended parallel process model (S-EPPM) (Smith et al., 2007). The second extension was hedonic enjoyment, media appreciation (Oliver & Bartsch, 2010), and realism as antecedents to stereotype content (Fiske, 2018) and subsequent BIAS map framework (Cuddy et al., 2007) predictions.

The experience of the COVID-19 pandemic differed substantially depending on one's characteristics. People of advanced age and people with obesity face increased risks of severe symptoms requiring hospitalization and increased mortality (Daoust, 2020; Ebinger et al., 2020). In comparison, the move to working from home disproportionately impacted the tangible and mental resources of women with children (Augustus, 2021; Bermeo et al., 2021; Blithe et al., 2022; Elias & D'Agostino, 2021). Further, these groups faced amplification of pre-existing stigmas due to the association between their group and harmful responses to the pandemic (e.g., Augustus, 2021; Ayalon et al., 2021; Barrett et al., 2021; Brookes, 2021; Dicker et al., 2020). Thus, differences in response to the COVID-19 pandemic provided timely ground for exploring the relationship between expressions of disparity and responses to denigrated targets.

Study 1

The first in this series of studies presented an assessment of the suitability of the S-EPPM to explain the level of support associated with two fluidly bound groups. As a result of the fluidity of the groups' boundaries, the original framing of susceptibility was adjusted to account for the possibility of joining the group, and the operationalization was termed *plausibility of an identity shift*. Further, the manipulation of the perceived severity of the threat to self-trajectory was operationalized through the communication of disparity information. This operationalization aimed to assess whether the disparity information appeared to have increased negative responses to these groups when compared to evaluations of these groups without the presence of that information. In other words, whether disparity information converges with other target attributes as a multiple stigma. Further, this study addressed the potential of false superior pity as a mediating affective response between threat appraisal and supportive responses, including social attraction and beneficial policy support.

Study 2

The second study analyzed additional data collected during Study 1. The second study tested whether multiple stigma associated with COVID-19 risk disparity also predicted associated distancing from a COVID-19 patient. Additionally, this study sought to understand whether the disparity information would exhibit the characteristics of a moral dilemma wherein the status of the groups listed as vulnerable impacted whether participants intended to comply with mitigation behavior and support related policy, compared with immediate response to a COVID-19 patient.

Study 3

The last study in the series also examined the evaluation of a group that experienced disproportionate negative impacts of the COVID-19 pandemic. However, this study assessed the suitability of the BIAS map framework to the context of working moms during the COVID-19 pandemic. One reason for the shift in the theoretical lens for this context was that this group does not exhibit the direct overlap of identity with health risk compared with the other two. The S-EPPM is based on the EPPM, a framework designed to explain the effectiveness of fear appeals in health and risk communication. Part of adapting it to stigma (Smith et al., 2007) included the characterization of the threat in the space of a direct health threat and identity crossover – HIV and HIV stigma originally, and COVID-19 outcomes and advanced age or obesity here. While working women with children certainly experienced disparate outcomes, they were not immediately associated with biological responses to the pathogen.

Further, this lens shift provided an additional framework to examine the more nuanced measure of false superior pity. Lastly, Fiske (2010) expressed that targets of ambivalence likely provide a space where the dimensions of the stereotype content model are particularly malleable in response to the characteristics of participants and moderating details of the target. Oliver et al. (2021) recommended exploring mediators between appreciated or enjoyed media and prosocial outcomes. Taking these suggestions in tandem, the third study examined the potential for the dimensions of stereotype content to mediate the influence of enjoyment and appreciation on support for targets of ambivalence.

These studies converge on the possibility of explaining responses to disparity information and the potential for false superior pity to offer explanatory power in response to the targets of ambivalence.

Implications of Findings

The findings fall under two primary categories: false superior pity and disparity information.

The Relationships among False Superior Pity, Threat Appraisal, and Response

The conceptualization of pity as an ambivalent emotion, capable of both positive and negative expression, has been articulated by scholars of emotion (Ben-Ze'ev, 1993; Carr, 1999; Florian et al., 1999) and stigma (Boleyn–Fitzgerald, 2003; P. W. Corrigan & Fong, 2014; Cottrell et al., 2010; Cuddy et al., 2007; Weiner, 2018) alike. However, the nuance of this expression was rarely captured in studies, which mostly relied on single or dual-item measures, sometimes even composites of potentially opposing expressions of compassion and pity.

This study series examined the role of false superior pity across three theoretical approaches to explaining responses to denigrated targets. Study 1 suggests that false superior pity would mediate relationships between S-EPPM threat appraisals and policy support. However, these findings should be considered cautiously, considering that they are based on measures, not manipulations, and the model was prone to instability associated with negatively skewed policy outcomes. The severity of the threat to trajectory moderated the influence of plausibility of identity shift on false superior pity, such that when both appraisals were low, pity was lower than when both were high. This

finding underscores Ben-Ze'ev's (1993) characterization of pity as fear of becoming the other. False superior pity was predictive of lower social attraction.

Further, sympathy, not false superior pity, moderated the influence of attribution of responsibility on social attraction. This finding confirms that support for the original attribution model prediction (Weiner et al., 1988) of low attribution of responsibility and high pity leads to reduced stigma wherein pity is expressed as sympathy. Sympathetic expression alleviates the impotence associated with negative pity expressions (Ben-Ze'ev, 1993; Florian et al., 1999).

In study 3, pity mediated the relationship between condition and avoidant behavior. This relationship reflects the anticipated pathway of the BIAS Map framework through pity to passive harm, i.e., avoidance. Study 3 also considered false superior pity as a moderator of the ambivalent expression of competence in response to working mothers. Like pity, competence can express ambivalently such that high competence can have a negative or positive connotation. Given the downward social comparison associated with pity, it was anticipated to reduce the status threat posed by working mothers. Still, pity did not moderate the relationship between competence and policy support.

In sum, false superior pity took on an effective mediating role in responses to denigrated targets within both the S-EPPM and BIAS Map. This assessment provides a more nuanced understanding of the type of pity expression associated with the anticipated responses.

Disparity Information and Support for Targets of Ambivalence

Disparity information indirectly influenced support for targets across the three studies, but the influence depended on the mediating constructs and the study context.

Study 1 indicates that the disparity information related to biological response to pathogens has a stigma amplifying influence in response to people with obesity.

However, the information had a null effect when people responded to people of advanced age. It may be that negative responses to people of advanced age are already more associated with mortality (Martens et al., 2004; Schmeichel et al., 2009), so the additional context for this sentiment was ineffective. It could also be that disparate outcomes of COVID-19 for people of advanced age have been so heavily disseminated that people have been desensitized to it (Bogomiagkova & Popova, 2021; Cho & Salmon, 2007).

The second study indicated that, combined with the social comparison portion of Study 1, disparity information predicted lesser intention to comply with mitigation protocols than the control within the advanced age condition only. Thus, this approach to measurement may be capturing the remnants of the influence of disparity information combined with social comparison priming that the more direct measures of Study 1 did not capture. However, from a practical standpoint, the difference is within a single half-scale point, so not a compelling case that this study functioned as a moral dilemma.

Rather than testing the presence or absence of information, the third study assessed the presentation of disparate experiences of working mothers as either light-hearted or serious. This information exhibited influence through hedonic pleasure and appreciation for warmth and policy support. So, in this case, the influence of the information was contingent on positive impressions of the media.

The shared finding across all three studies was that disparity information does not directly influence support for denigrated groups and is subject to mechanisms derived from communication and stereotype and stigma frameworks. These findings offer practical approaches beyond removing the primary signals of stigma to combat the deleterious influence of communication about the hardships denigrated groups face.

Limitations

There were several limitations to the dissertation. First, the manipulations had limited direct effects. Certain elements of the design of each study likely contributed to this issue. Immediately measuring the desired dimensions of manipulation with extensive instruments may have washed out direct effects of manipulation had there been evidence. It was also difficult to distinguish the influence of the disparity information from participation in Study 1 generally when interpreting the results of Study 2.

Further, in Study 3, the manipulations were effective compared to each other; however, the means of hedonic enjoyment and appreciation were close to neutral mid-points. As a result, this study relies upon additional self-reported measures of intentional manipulations, subject to desirability bias, especially in reporting responses to ambivalent targets (Bergsieker et al., 2012). On the other hand, extensive measurement of threat appraisal and fulfillment of specific entertainment needs allowed the relationships to be evaluated even in the absence of highly effective manipulations.

The studies are also limited in their generalizability. The results of Study 1 are indicative of white and African American perspectives, and Study 3 over-represents white Americans and Asian Americans slightly. The benefit of stratifying Study 1 to ensure generalizability beyond white Americans is balanced by the cost of not

representing different groups, like Asian Americans who faced increased racism and Latine populations who also experienced more severe disease outcomes in response to COVID-19.

Lastly, the test of affective response mediation was limited to pity for the most part, and only one of three possible expressions was thoroughly measured. Additional affective responses were measured via single items. So, while this study expands understanding of how false superior pity expression mediates several dynamics between threat appraisal of targets and support, it does not allow for direct assessment of different expressions or alternative affective mediators measured with the same degree of precision.

Future Directions

There are several ways that future research could continue to build upon these findings. First, direct manipulation of both plausibility of identity shift and collective efficacy could determine if this reframing of the theory confirms additional predictions of the original EPPM to the stigma-oriented level.

Further, expanding pity expressions as mediators across all three models could capture nuances in responses to ambivalent targets and allow for tests of the predictive power of the expressions against one another.

Enjoyment and appreciation predicted the threat appraisals associated with the stereotype content model within the social disparity context of working mothers. It would be fruitful to understand how these perceptions of need fulfillment might also complement collective efficacy in the S-EPPM.

Additionally, while the influence of health disparity information within groups has been known to negatively impact self-perceptions when attributed to a trait (Nicholson et al., 2008), the influence of the tone of those messages has yet to be studied. The tone of the messages could function through the fulfillment of entertainment needs to improve self-compassion, for example. Also, investigating whether these messages support self-compassion or self-pity among working mothers as a function of need fulfillment and whether that presents as animosity toward non-parents would make a valuable comparison to the present data.

Although realism did not moderate the influence of content type on policy support, this may have been due to the lack of strong amusement and inspiration responses to stimuli. So, this possibility should be explored again with more effective stimuli.

Conclusion

This dissertation examined responses to denigrated groups who experienced heightened levels of threat from the COVID-19 pandemic through two approaches to predicting pro-sociality. The findings indicate that concerning the S-EPPM, the presence or absence of this disparity information amplified stigma in the obesity context. In the context of working moms, communication about the disparate experience does not directly help nor harm support for working women with children directly; however, it indirectly promotes support when it meets the entertainment needs of working non-parents. Further, this dissertation examined several possible mediating and moderating roles of false superior pity within the framework of the S-EPPM and the BIAS map. In this respect, characterizing pity with additional nuance differentiates responses from

single-item pity and sympathy in predictive performance within the S-EPPM and the attribution model.

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Appendix A

Instrument Study 1 and 2

After each image the participant will be asked to respond to the following blocks of questions:

Open response: Please describe the person in the image above using a few words.

Threat Assessment: Likert-type, Strongly Disagree to Strongly Agree unless otherwise noted

Adapted from Smith et al. (2007).

1. I don't want to imagine what this person's life is like.
2. Becoming like this person would be the worst thing that could happen to me.
3. Becoming like this person would be a death sentence.
4. It is possible that I will someday end up like the person pictured.
5. It is likely that I will someday end up like the person pictured.
6. I would describe my personal chances of becoming like the person pictured as...
Extremely unlikely -> Extremely likely.
7. Indicate the way your life might change if you became like the person pictured. It
would be much worse -> It would be much better.

Pity: Likert-type Items, randomized order

Adapted from Florian et al. (1999)

1. I feel badly for this person.
2. I am more fortunate than this person.
3. This person is unfortunate.
4. This person's life must be worse than mine.

Affective Response: Likert-type, None at all-> Extremely high amount

Indicate how much of each of the following you feel for the person pictured.

1. Sympathy
2. Pity
3. Concern
4. Admiration
5. Contempt
6. Envy
7. Disgust

Social Attraction: Likert-type, Strongly Disagree to Strongly Agree.

Subset from McCroskey and McCain (1974) Interpersonal Attraction Scale

1. I think this person could be a friend of mine.
2. I would like to have a friendly chat with this person.
3. I think this person would NOT fit into my circle of friends.
4. This person would be pleasant to be with.
5. We could never establish a personal friendship with each other.
6. It would be difficult to talk with them.

Help: Likert Type, Strongly Disagree to Strongly Agree.

Adapted from Florian et al. (1999)

1. I would wish for this person's well-being.
2. I would feel obliged to help this person.
3. I would want to help this person.

These blocks will be followed by a condition-appropriate version of social efficacy, policy support, behavioral efficacy, behavioral intentions. If they are in the control condition they will be asked to respond to all three variations of these measures, otherwise they will be asked to respond to those associated with the pair of stimuli they viewed. If they are in the single image condition then they will answer the blocks associated with what they viewed first, then answer blocks associated with the other conditions.

All self efficacy, behavioral efficacy, and response efficacy items are adapted from various EPPM works to fit each context. Social or collective efficacy items are adapted from the S-EPPM (Smith et al., 2007).

Social Efficacy: Obesity

1. If a person with obesity needed my help I would offer it regardless of how other members of my social circle felt.
2. If a person with obesity needed my help I would offer it regardless of how my loved ones felt.
3. If a person with obesity needed my help I would offer it regardless of how other members of my community felt.
4. Members of my community are willing to join in and do their share of the work to help people with obesity.
5. Members of my community could work together to help people with obesity.
6. Members of my community mobilize resources to help people with obesity.

Collective Efficacy: COVID

1. If a person with COVID-19 needed my help I would offer it regardless of how other members of my social circle felt.
2. If a person with COVID-19 needed my help I would offer it regardless of how my loved ones felt.
3. If a person with COVID-19 needed my help I would offer it regardless of how other members of my community felt.
4. Members of my community are willing to join in and do their share of the work to help people with COVID-19.
5. Members of my community could work together to help people with COVID-19.
6. Members of my community mobilize resources to help people with COVID-19.

Collective Efficacy: Advanced Age, Likert-type, Strongly disagree -> Strongly Agree

1. If a person of advanced age (i.e., elderly person) needed my help I would offer it regardless of how other members of my social circle felt.
2. If a person of advanced age (i.e., elderly person) needed my help I would offer it regardless of how my loved ones felt.
3. If a person of advanced age (i.e., elderly person) needed my help I would offer it regardless of how other members of my community felt.
4. Members of my community are willing to join in and do their share of the work to help people of advanced age (i.e., elderly people).
5. Members of my community could work together to help people of advanced age (i.e. elderly people).

6. Members of my community mobilize resources to help people of advanced age (i.e. elderly people).

Policy Support: Likert-type, Strongly oppose -> Strongly support

[This list may be blocked by condition, but each participant will answer all items]

1. An employer should be allowed to refuse to hire a qualified person because of their body weight.
2. It should be illegal for an employer to assign lower wages to a qualified employee because of their body weight.
3. Health insurance companies should be allowed to decline coverage on the basis of body weight.
4. Individual companies should require that all overweight workers must take provided exercise classes in order to reduce company healthcare costs.
5. Health insurance companies should be required to cover weight management counseling and programming.
6. Only a limited number of fast food restaurants should be allowed in lower-income areas.
7. Tax revenue from unhealthy food distributors should be allocated for obesity prevention.
8. The COVID-19 vaccine should be added to the pediatric vaccine schedule required for public school enrollment.
9. It should be illegal for individual companies to fire an employee for refusing to follow social distancing and hygiene protocols (e.g., wear a mask in-doors, wash hands, maintain six-foot distance when possible).

10. Willfully unvaccinated adults should be lowered in priority during medical triage.
11. COVID-19 related medical expenses should be covered entirely by health insurance policies.
12. Wearing a mask in-doors in locations operating at more than 50% capacity or where social distancing is not possible should be Federally mandated.
13. Vaccination for COVID-19 should be Federally mandated for all adults who do not have medical exemptions.
14. People over the age of 65 should be required to file a living will or advance directive for medical decisions.
15. People over the age of 65 should be required to take annual exams including vision tests to maintain their driver-license.
16. All employees of assisted living and nursing facilities should be required to wear masks at all times.
17. Free public transit should be provided for adults 65 and older to local parks, walking trails, and recreation centers directly from their homes.
18. Home care coverage (e.g., home nurse, caretaker) should be subsidized for all adults age 65 and older.
19. Employers should be required to offer paid leave for a minimum of five (5) days to any employee testing positive for COVID-19.
20. Employers should be banned from terminating employees who are absent due to caregiving responsibilities associated with dependents' COVID-19 diagnosis.

Behavioral/Response Efficacy**COVID-19**

1. Social distancing, wearing, masks, and disinfecting hands works in preventing the contraction of COVID-19.
2. Vaccines work to reduce the severity of COVID-19 infection.
3. I am less likely to get COVID-19 if I have had a full series of one of the mRNA vaccines.
4. I am less likely to get COVID-19 if I social distance, wear a mask, and disinfect my hands.
5. Social distancing, wearing masks, and disinfecting hands is effective in preventing the contraction of COVID-19.
6. Vaccines are effective in preventing hospitalization from COVID-19.
7. I am able to socially distance, wear a mask, and disinfect my hands to prevent the contraction of COVID-19.
8. I am able to get a vaccine to prevent hospitalization from COVID-19.
9. Getting a vaccine is an easy way to prevent hospitalization from COVID-19.
10. Social distancing, wearing masks, and disinfecting hands is easy to do to prevent COVID-19.

Advanced Age

1. Moderate exercise three times a week will effectively promote cognitive health.
2. Eating five servings of fruits and vegetables each day effectively reduces the risk of age-related disease.

3. Using sunscreen regularly reduced the negative impacts of sun exposure on skin over time.
4. I am able to exercise three times a week even when my schedule is very busy.
5. I can effectively use sunscreen when applying it may be inconvenient.
6. Eating five servings of fruits and vegetables each day is an easy way for me to avoid age-related disease.

Obesity

1. Moderate exercise three times a week will effectively control weight gain.
2. Exercising 30 minutes per day will effectively control weight gain.
3. Eating five servings of fruits and vegetables each day effectively reduces the risk of nutrition-related disease.
4. Healthy diet and exercise work to reduce the risk of nutrition related disease.
5. I am able to exercise three times a week even when my schedule is very busy.
6. I can effectively control my weight under any circumstance.
7. Eating five fruit and vegetable each day is an easy way for me to avoid nutrition-related disease.

Intentions**COVID-19**

1. I will wear a mask when in-doors in public spaces.
2. I will avoid large gatherings when case numbers in my area are high.
3. I intend to vaccinate for COVID-19 in accordance with government recommendations.
4. I will wash my hands often.

Advanced Age

1. I will use sunscreen regularly.
2. I will exercise several times per week.
3. I will exercise thirty minutes a day.
4. I will eat five servings of fruit and vegetables each day.

Obesity

1. I will try to exercise for 30 minutes a day.
2. I will try to prepare healthy meals in the coming weeks.
3. I intend to eat at least five portions of fruits and vegetable each day.
4. I will try to exercise several times per week.

All participants will be asked to respond to questions in the following blocks:

Vulnerability Perceptions, Likert-type, Strongly disagree -> Strongly agree

1. I consider obese people to be a vulnerable group.
2. I consider people of advanced age to be a vulnerable group.
3. I consider unvaccinated adults to be a vulnerable group.

Experience and Contact

- 1- Please provide your best estimate: What percentage of the people you interact with on a typical day are larger-bodied (e.g., obese or overweight)?
- 2- Please provide your best estimate: What percentage of your close friends and family are larger-bodied (e.g., obese or overweight)?



- 3- Which of the figures above best represent your body size?
- 4- Which of the figures above best represents the ideal body size?
- 5- Please provide your best estimate: What percentage of the people you interact with on a typical day have had COVID-19?
- 6- Please provide your best estimate: What percentage of your close friends and family have had COVID-19?
- 7- Please provide your best estimate: What percentage of the people you interact with on a typical day are elderly?
- 8- Please provide your best estimate: What percentage of your close friends and family are elderly?

Political Efficacy

Adapted from Craig and Maggiotto (1982)

1. The political system in the United States allows people like me to have a say in what the government does.
2. Changing policy is an effective way to resolve public health issues.

Demographics

Ethnicity

Please indicate your ethnicity below:

Hispanic or Latinx/o/e

Hispanic not Latinx/o/e

Latinx/o/e, not Hispanic

Neither Latinx/o/e nor Hispanic

Race

Please indicate your race below, check all that apply:

American Indian or Alaskan Native

Asian

Black or African American

Native Hawaiian or other Pacific Islander

White

Other

Income

Please provide an estimate of your household income (just a number, no \$ symbol):

Education

Please indicate your highest level of formal education.

Did not receive high school diploma or equivalent

High School diploma or equivalent

Some college, no degree or certification

Associates degree

Technical school degree or certification

Bachelors' degree

Masters' degree

Advanced Professional Degree

Doctoral degree

Political Ideology

Please indicate how you would characterize your political ideology

Extremely conservative _> Extremely liberal

Political Party

Please indicate the political party with which you most identify.

Democrat

Republican

Independent

Green party

Working families party

Age

Please indicate how old you were on your most recent birthday. []

Comments

Please provide any comments you would like, including thoughts on what you think this study was about. []

Survey END

Appendix B

Instrument Study 3

All realism items are adapted from Cho et al., (2014) and items related to enjoyment, appreciation, and relatedness were adapted predominantly from Oliver's works (e.g., Janicke & Oliver, 2017; N. Lewis & Weaver, 2019; Oliver & Bartsch, 2010; Oliver & Woolley, 2010; Schneider et al., 2019; Tamborini et al., 2011; Wang, 2019).

Realism

Indicate your level of agreement with the following [7-point Likert Strongly Disagree -> Strongly Agree]:

1. I find this content entertaining.
2. I think this content represents what working from home with kids is really like.
3. I think this content represents the typical experience of working from home with kids.
4. I think this content accurately represents parents' feelings while working at home with kids.
5. This person who created this is likely the person pictured.

Plausibility [7-point Likert Strongly Disagree -> Strongly Agree]:

1. The [meme(s)/content] showed something that could possibly happen in real life.
2. The event in the [meme(s)/content] portrayed possible real-life situations.
3. The story in the [meme(s)/content] could actually happen in real life.
4. Never in real life would what was described in the [meme(s)/content] happen.
5. Real people would not do the things shown in the [meme(s)/content]).
6. Real people would not say the things in the [meme(s)/content]

Typicality [7-point Likert Strongly Disagree -> Strongly Agree]:

1. Not many people are likely to experience the event portrayed in the [meme(s)/content].
2. The [meme(s)/content] portrayed an event that happens to a lot of people.
3. What happened to the people in the [meme(s)/content] is what happens to people in the real world.

Narrative consistency [7-point Likert Strongly Disagree -> Strongly Agree]:

1. (Each/The) [meme(s)/content] told a coherent story.
2. The story portrayed in (each/the) [meme(s)/content] was consistent.
3. Visual parts of the [meme(s)/content] were contradicting textual parts of the same [meme(s)/content].
4. The story portrayed in (each/the) [meme(s)/content] made sense.
5. The event in (each/the) [meme(s)/content] had a logical flow.

Single-item Enjoyment

I like [meme(s)/content] like (this/these). [Strongly Disagree -> Strongly Agree]

Eudaimonic:

1. This [media content/meme] challenges my way of seeing the world.
2. This [media content/meme] makes me more reflexive.
3. This [media content/meme] focuses on meaningful human conditions.
4. This [media content/meme] makes me think.
5. I am very moved by this [media content/meme] because it is about someone's search for greater understanding in life.
6. This [media content/meme] has a profound meaning or messages to convey.

Hedonic:

1. I had fun when engaging with this [media content/meme]
2. This [media content/meme] made me laugh.
3. I find this [media content/meme] simple, but enjoyable because it is fun.
4. Although [media content/meme] may be considered “silly” or “shallow” it made me laugh and have a good time.
5. For me, this is the best kind of [media content/meme] because it is entertaining.
6. This [media content/meme] is happy and positive.

Relatedness

1. This [media content/meme] is meant to be shared with others.
2. This is my favorite kind of [media content/meme] because my peers and I can enjoy it together.
3. When I engaged with this [media content/meme], I felt close to other people.
4. Knowing that others also engaged with [media content/meme] makes me happy.

Affective Response: Likert-type, None at all-> Extremely high amount

Indicate how much of each of the following you feel toward the person/people this [media content/meme] is about.

1. Sympathy
2. Pity
3. Concern
4. Admiration

5. Contempt
6. Envy
7. Disgust

Pity

Adapted from Florian et al. (1999)

1. I feel badly for the person this [media content/meme] is about.
2. I am more fortunate than the person this [media content/meme] is about.
3. The person this [media content/meme] is about is unfortunate.
4. The life of the person this [media content/meme] is about must be worse than mine.

Self-Compassion [Never to Always]

1. Selected from Neff (2003). When I fail at something important to me, I become consumed by feelings of inadequacy.
2. I try to be understanding and patient towards those aspects of my personality I don't like.
3. When something painful happens I try to take a balanced view of the situation.
4. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
5. I try to see my failings as part of the human condition.
6. When I'm going through a very hard time, I give myself the caring and tenderness I need.
7. When something upsets me, I try to keep my emotions in balance.

8. When I fail at something that's important to me, I tend to feel alone in my failure.
9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm disapproving and judgmental about my own flaws and inadequacies.
12. I'm intolerant and impatient towards those aspects of my personality I don't like.

BIAS:

Warmth and competence are adapted from works related to stereotype content model (Fiske et al., 2002).

Competence

- 1- The person/people who this [media content/meme] seems like a hard worker.
- 2- The person/people who this [media content/meme] seems like they would be good at their job.
- 3- The person/people who this [media content/meme] seems lazy.

Fairness/Unfairness/Resource Allocation

- 1- I think most working moms/employed mothers contribute as much as other workers in white collar professions.
- 2- I think most working moms/employed mothers contribute as much as other workers in the service industry.

Warmth

- 1- The person who posted this [media content/meme] seems sincere.

- 2- The person who posted this [media content/meme] seems funny.
- 3- I would like to be friends with someone like the person who posted this [media content/meme].

Threat to Identity

Adapted from Smith et al. (2007)

- 1- I don't want to imagine what the person/people who these memes are about life is like.
 - a. Strongly Disagree: I really WOULD like to imagine what this person's life is like.
 - b. Disagree: I WOULD like to imagine what this person's life is like.
 - c. Somewhat Disagree: I WOULD kind of like to imagine what this person's life is like.
 - d. Neither Agree nor Disagree: I feel neutral about imaging what this person's life is like.
 - e. Somewhat Agree: I would NOT kind of like to imagine what this person's life is like.
 - f. Agree: I would NOT like to imagine what this person's life is like.
 - g. Strongly Agree: I really would NOT like to imagine what this person's life is like.
- 2- It would ruin my life if I were like the person/people who these memes are about.

3- How would your life change if I were like the person/people who these memes are about?

a. Much Worse -> Much Better

4- I think I could easily end up like the person/people who these memes are about.

a. Strongly Disagree -> Strongly Agree

5- I think it is likely that I will end up like the person/people who these memes are about.

a. Strongly Disagree -> Strongly Agree

Collective/Social Efficacy

Adapted from Smith et al. (2007).

1. Members of my community are willing to join in and do their share of the work to help people working moms/employed mothers.
2. Members of my community could work together to help working moms/employed mothers.
3. Members of my community mobilize resources to help working moms/employed mothers.

Policy

Indicate the degree to which you support or oppose the following policies.

[Strongly Oppose -> Strongly Support]

- 1- Work schedules should be responsive to employee needs as long as expectations of productivity are both met and equal among employees.

- 2- A least three months of paid family and medical leave should be guaranteed yearly, with guaranteed job security upon return from leave.
- 3- Part-time employees should be eligible for paid family and medical leave.
- 4- Free, universal childcare should be available for all children ages 0-4 years.
- 5- Free, universal afterschool care should be available for all students enrolled in the public school system.
- 6- Maternity and post-partum care should continue to be standard coverage on all health insurance policies.
- 7- Maternity and post-partum care costs should be covered entirely by health insurance policies.
- 8- COVID-19 vaccines should be added to the list of required vaccines for public school registration.
- 9- A single-payer healthcare system (i.e., universal healthcare) should be adopted in the United States.
- 10- Medicaid should be expanded to cover all children.
- 11- The child tax credit of \$300 per month per child should be extended for 2022.
- 12- Health insurance should be required to cover all fertility treatments, including IVF and egg harvesting and freezing.
- 13- Companies should provide lactating people (e.g., nursing parents) with additional breaks to accommodate lactation i.e., at least every two (2) hours.

Behavioral {order of this and policy block will be randomized}:

- 1- How likely would you be to promote someone like the person/people who these memes are about?

- 2- I would like to have [more] kids (including via birth, adoption, surrogate, or fostering):
 - a. Never, In Many Years, In a Few Years, As soon as possible
 - b. For those who do not say Never: How many kids total would you like to have?
- 3- I intend to use contraception (e.g., birth control pill, condoms, IUD) for at least the next six months.
 - a. Strongly Disagree -> Strongly Agree

Life experience

1. What percentage of the people you interact with regularly are working moms?
2. What percentage of the people you interact with regularly are working dads?

Prevalence

1. I believe ____% of the US workforce are working moms.
2. I believe ____% of the US workforce are working dads.

The study closes with the following demographics:

Gender ID

Please select the response that best describes your gender from the list below:

Woman, Man, Trans Woman, Trans Man. Non-binary, Genderqueer, Trans,
Prefer not to answer, Other, []

Relationship

Please select a response that best represents your current partner status from the list below:

Single, Dating Exclusively, Dating casually, Domestically partnered,
Married, Separated, Divorced, Widowed, Other []

Parent Status

Indicate the age groups of the children you care for in your home on a regular basis. Check all that apply.

No children in household, Children 0-4 years old, Children 5-11 years old,
Children 12-18 years old

Number of Kids

A drop down will appear for each age range selected to indicate number of children within this group

Employment

Please select the responses that best represent your employment status below. Check all that apply.

Employed full-time (36+ hours per week), Employed part-time (less than 36 hours per week), Full time student, Part time student, Part time home/family caretaker (unpaid), Full time home/family caretake (unpaid), Self-employed, Retired

Work logistics:

In the past year I have worked remotely:

None of the time, part of the time, all of the time, other [specify]

Ethnicity

Please indicate your ethnicity below:

Hispanic or Latinx/o/e

Hispanic not Latinx/o/e

Latinx/o/e, not Hispanic

Neither Latinx/o/e nor Hispanic

Race

Please indicate your race below, check all that apply:

American Indian or Alaskan Native

Asian

Black or African American

Native Hawaiian or other Pacific Islander

White

Other [specify]

Income

Please provide an estimate of your household income (just a number, no \$ symbol): []

Education

Please indicate your highest level of formal education.

Did not receive high school diploma or equivalent

High School diploma or equivalent

Some college, no degree or certification

Associates degree

Technical school degree or certification

Bachelors' degree

Masters' degree

Advanced Professional Degree

Doctoral degree

Political Ideology

Please indicate how you would characterize your political ideology

Extremely conservative _ > Extremely Liberal

Political Party

Please indicate the political party with which you most identify.

Democrat

Republican

Independent

Green party

Working families party

Other [specify]

Age

Please indicate how old you were on your most recent birthday. []

GLOSSARY

Construct	Conceptual Definition	Operationalization
False Superior Pity	A type of pity expression characterized by a downward social comparison and a lack of incentive or desire to help the pitied party (Ben-Ze'ev, 1993; Florian et al., 1999)	Measured by assessing comparison with a denigrated target (e.g., "My life is better than that of the person pictured.")
Threat Appraisal	According to the extended parallel process model (EPPM) (Witte, 1992) the threat appraisal refers to perceptions of an external risk to health or safety. The conceptualization closely parallels that of the health belief model (Becker, 1974). Within each, when faced with a threat or risk, people assess the severity (level of potential harm) and the susceptibility (likelihood of experiencing harm) associated with the threat before responding to the threat.	<p>The two elements of threat appraisal have been assessed additively, multiplicatively, individually, and inversely (El-Toukhy, 2015).</p> <p>In this dissertation, severity replicates the measure of severity associated with the stigma-oriented EPPM (Smith et al., 2007). The severity of threat to self-trajectory measures how negatively the associated experience – in this case obesity, advanced age, or COVID-19 would influence one's trajectory. For example, one item refers to how much better or worse their life would be.</p> <p>Susceptibility in this case refers to the plausibility of taking on that identity at some point in the future.</p>
Efficacy	<p>Efficacy is conceptually derivative of social learning theory (Bandura, 1978, 2001; Bandura et al., 1977). This term essentially refers to the perception that something or someone is capable of achieving a specific outcome. Witte (1992) also adds the level of ease with which this process is perceived to the conceptual definition.</p> <p>Efficacy can be applied across several contexts. Self-efficacy refers to the belief that a person can attain a desired result (Bandura et al., 1977; Witte,</p>	<p>This dissertation examines relationships between collective efficacy and support for denigrated groups.</p> <p>Collective efficacy is operationalized per Smith et al. (2007) as the belief that one's community can mobilize resources and provide support for a denigrated group.</p> <p>Self-efficacy in this study measured participants' belief that</p>

Construct	Conceptual Definition	Operationalization
Attribution of Responsibility	<p>1992), response efficacy refers to the belief that a treatment or message or intervention leads to the desired results, and collective efficacy refers to the belief that a group can collaborate to bring about a desired result (Bandura, 2001; Lindsley et al., 1995; R. A. Smith et al., 2007)</p> <p>Attribution theory of prejudice describes how perceptions of who is responsible for a situation or characteristic and how much it can be controlled will predict response to the group (Weiner, 2018; Weiner et al., 1982).</p> <p>In a bibliometric review, Muschetto and Siegel (2021) found a cluster of co-citations representing attribution theory and social conduct. Within this cluster, they found that work supported the notion that higher controllability and responsibility of social identity or associated behaviors predicted less helping behavior and more punitive judgement. Further, the work in this cluster supported the notion that people feel they have a right to pass judgment on others based on inferences of responsibility and associated emotional responses</p>	<p>they could easily comply with COVID-19 mitigation behaviors e.g., social distancing.</p> <p>In this study, the measure of attribution was limited to that of responsibility.</p> <p>Attribution here referred to the responsibility people with obesity, people of advanced age, and people with COVID-19 have for the outcomes of their group status and the responsibility that should be attributed to structure.</p>
Media Hedonic Enjoyment	<p>Tamborini et al., (2010) argue that enjoyment is the outcome of fulfilling the intrinsic needs defined by self-determination theory (Deci & Ryan, 2008). Oliver and Bartsch (2010) assert that the roots of enjoyment as hedonic need fulfillment can be traced through mood management (Zillman & Cantor, 1977; Zillmann, 1988) and disposition theory (A. A. Raney, 2004). The desire to feel good and maintain that feeling describe the role of hedonic enjoyment.</p>	<p>In this dissertation, hedonic media enjoyment refers to the sense of pleasure or fun derived from the content.</p> <p>Further, light content was meant to be hedonically enjoyable.</p>
Media Appreciation	<p>Oliver (2008) proposed that how meaningful media is perceived to be may prompt what she termed</p>	<p>Appreciation was operationalized by the way the media content made the participant feel like they</p>

Construct	Conceptual Definition	Operationalization
Realism	<p data-bbox="505 254 976 684">“eudamonia,” a sort of inspired or poignant response. In this case, though the media may not be enjoyed in the traditional sense, it may be appreciated. They also assert that appreciation may be a longer, more pensive process than reflexive enjoyment. A combination of three studies, testing the types of responses gleaned from serious, light, and action film genres supported the position that a meaningfulness is an additional gratification of media (Oliver & Bartsch, 2010).</p> <p data-bbox="505 709 976 1140">Realism is a multi-dimensional construct (Fisher, 1987; Hawkins, 1977, Busselle & Bilandzic, 2008; Cho, Shen, & Wilson, 2014a; Nera, Pantazi, & Klein, 2018a; Shapiro, Barriga, & Beren, 2010; Shapiro, Peña-Herborn, & Hancock, 2006; van Leeuwen, Renes, & Leeuwis, 2013a) that refers to the consistency between some media representation and the experience, environment, and knowledge of a perceiver regarding the content, the production, and the genre.</p> <p data-bbox="505 1199 976 1461">Realism may be divided into absolute or relative terms (M. A. Shapiro & Chock, 2003; M. A. Shapiro & Kim, 2012), real-world or story-world (Busselle & Bilandzic, 2008; Hall, 2003), or objective and personal/coherence oriented (Busselle & Bilandzic, 2008; Oatley, 1999).</p> <p data-bbox="505 1520 976 1852">Plausibility and typicality reference direct real-world comparisons, whereas narrative consistency is relative to elements like genre or knowledge of a certain character. Factuality would seem to fit neatly into objective realism, however audiences in her sample perceived this dimension also in terms of narrative consistency and with other situational qualifiers (Hall, 2003).</p>	<p data-bbox="1003 254 1393 348">had expanded their worldview or engaged with something meaningful through the media.</p> <p data-bbox="1003 407 1393 501">Further, serious content was meant to be more appreciated than light content.</p> <p data-bbox="1003 709 1393 972">The dimensions of plausibility, typicality, narrative consistency, factuality, and perceptual quality were measured with reference to content that described the experiences of working mothers during the pandemic alongside imagery.</p> <p data-bbox="1003 1031 1393 1394">The imagery was manipulated to appear more or less typical, however in conjunction with the light or serious tone – the combinations of stimuli also manipulated narrative consistency. For example a serious note combined with a happy, staged image should be considered less narratively consistent.</p>

Construct	Conceptual Definition	Operationalization
Target Appraisal	<p>Target appraisal refers to the combination of judgments with which people assess targets of prejudice and stigma.</p> <p>The conceptualizations applied in this work are derived from the stereotype content model (Cuddy et al., 2008; Fiske, 2018; Fiske et al., 2002) and BIAS Map (Cuddy et al., 2008), primarily warmth and competence. Warmth refers to the affective response to the target, while competence refers to the level of capability perceived in the target. Competence is more the more complicated of the two, in a low competition group high competence can improve the response, whereas if the group is highly competitive then competence can elicit higher animosity via envy.</p>	<p>Warmth was operationalized in two ways. First how amusing the target groups were and secondly how likable. Likability was measured as social attraction.</p> <p>Perceived competence referred to job-oriented abilities.</p>

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