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CAN NORMATIVE INFLUENCE EASE THE EFFECTS OF SOCIAL EXCLUSION?

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Abstract

Being socially excluded has negative effects on a person's well-being, both mentally and physically. Few studies have succeeded in finding a way to lessen these negative effects. Previous research in other domains have found that positive role models can help people to feel better about themselves and their situations. This study investigates the idea that role models could buffer the negative effects of social exclusion. Fifty-seven participants were either socially excluded, or, in the case of the control condition, included. Then participants were exposed to no essay, a neutral essay, or a role-model essay. Results showed that the role model essay was effective in buffering the negative impacts of social exclusion on the social needs of meaningfulness and self-esteem but not for the needs of control and belongingness. These findings suggest that the role model's experience is essential to how it improves one's sense of well-being. Directions for future research involve providing role models that touch on each of the social needs to see if a role model with high control, for example, will lead the reader to feel a higher sense of control. Additionally, these findings lend additional support to the normalization process for how people might cope with life trauma or threats.

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Can Normative Influence Ease the Effects of Social Exclusion?

Being chosen last in gym class, fired from a job, receiving a rejection letter, or going through a divorce have something important in common: they are experiences of social exclusion. These experiences may be poignant, yet it is impossible to live a normal life without them (Downey et. al., 2004). It may seem strange that such a fundamental part of the human experience can bring so much pain, but the need to belong is a fundamental human motivation—everyone desires it on some level (Baumeister & Leary, 1995). Because the need to belong is a fundamental human motivation, perceived or real threats to any form of social bond lead to a variety of physical and psychological issues, such as higher levels of stress, lower immune strength (Kiecolt-Glaser et al., 1984), poor sleep quality, increased peripheral resistance (Hawkley, Burleson, Berntson & Cacioppo, 2003), and increased risk of death (House, Landis, & Umberson, 1988). On top of this, exclusion can have negative psychological effects on feelings of belongingness, mood, self-esteem, control, and a sense of a meaningful existence (DeWall, Deckman, Pond, & Bonser, 2011).

Attempts to find a solution to the general issue of social exclusion are scarce, and most solutions are only marginally helpful or involve medications. This study attempts to use a different solution. Research has found that normative information through role models can have the powerful effect of changing one's outlook in difficult situations. People are often reassured and cope better in negative situations after receiving some normative examples of how people, like themselves, have coped with similar situations (i.e. Lockwood & Kunda, 1999, Olsson & Martiny, 2018). Receiving information about one's problem in a way that makes it seem more commonplace can lead them to worry less that their experience is abnormal or too difficult to

overcome. It can give them hope in a negative situation because they know others have had similar experiences and made it through. This is the way in which normalizing an experience using role models has the potential to be an effective method of coping with social exclusion. The purpose of this thesis is to examine whether normative influence might have the potential to ease or decrease the negative reactions that are commonly seen in response to social exclusion.

Social exclusion

Social exclusion is a common human experience, which the human brain shows preparedness to handle (Eisenberger & Lieberman, 2004). In fact, it has been observed in almost all social species of animal and is “pervasive and powerful” (Williams, 2007). Williams (2007) points out that there are so many times in one’s life that provide opportunities for exclusion that it is almost impossible to avoid it entirely—in school, in the workplace, in close relationships, etc.

Social exclusion may be comprehensively defined as “the dynamic process of being shut out, fully or partially from any of the social, economic, political, and cultural systems which determine the social integration of a person in society” (Walker & Walker, 1997, p. 4). This definition is broad enough to cover the exclusion of people in a systematic sense that results from racism, unemployment, or sexual orientation. At the same time, the definition still encompasses the exclusion that takes place on a smaller scale, such as children who are ignored by their peers, the death of a loved one, or a divorce. Studying social exclusion on a large and systematic scale is of the utmost importance. The present study focuses on the individual experience of exclusion in an attempt to find coping strategies for those who are excluded systematically or otherwise.

Studies show that social exclusion, in its various forms, has negative psychological and physiological outcomes and is associated with negative experiences. It can change our perception even of seemingly unrelated things. For example, Zhong and Leonardelli (2008) found that those who were asked to recall a situation in which they had been excluded reported that the room felt colder than those who were asked to recall a situation in which they had been included. If social exclusion can impact our perception of something as small as temperature, it is logical to presume it leads to a more negative perception and experience of integral parts of experience as well.

In addition to the aforementioned example, there are numerous physiological outcomes of social exclusion. Kleicolt-Glaser et al. (1984) found that people who reported higher levels of loneliness also showed higher urinary cortisol levels and lower levels of immune cell activity. Hawkley, Burleson, Berntson, and Cacioppo (2003) found that the lack of belongingness that results from social exclusion may also lead to poor sleep quality and increased peripheral resistance (difficulty for blood to travel through the body). Social exclusion has even been linked with an increased risk of death. These negative health outcomes are serious and worrisome in light of the fact that they can lead to expensive medical bills and further isolation (House, Landis, & Umberson, 1988).

Social exclusion can result in negative psychological outcomes on top of the physical ones. No matter the group doing the exclusion, it can have negative effects on feelings of belongingness, mood, self-esteem, control, and a sense of a meaningful existence for the victim. These are fundamental social needs for humans. Some of these effects can be seen through the increased aggression, poorer self-regulation, and higher likelihood of conformity that DeWall

et.al. (2011) have found to occur after social exclusion. Williams et.al. (2000) created a study in which five people volunteered to be ostracized by their coworkers at work. When socially excluded in this way, though they knew it would occur, participants engaged in various behaviors that were out of the ordinary for them, best explained as ways to compensate for these threatened social needs. The evidence from participant reports showed a negative impact on four fundamental needs: belongingness, control, self-esteem, and meaningful existence. Another study found that those participants who were excluded ate more potato chips than those who were included, as what is believed to be a coping mechanism (Hayman, McIntyre, & Abbey, 2015). Just as it does not seem to matter if one is aware they are being intentionally excluded for a study, it also does not matter if one is being excluded from a group they already do not wish to be a part of. For example, people who were excluded from a group they believed to be the KKK in an online game of catch reported stronger negative feelings than those who were included (Gonsalkorale & Williams, 2007).

Ultimately, the need to belong is a fundamental human motivation (Baumeister & Leary, 1995). Leary, Kelly, Cottrell & Schreindorfer (2013) administered the Need to Belong Scale (NTBS) on 2,461 participants and found that everyone had at least a moderate desire for social belonging. Although people differ in their strength of desire for acceptance and belongingness, it is a common need amongst most individuals. Social exclusion threatens fundamental human needs, as it goes against inherent human desires. It is damaging to have weak social ties because humans are social creatures who thrive in groups. When we sense that we are not a part of a group, we seem to take this as a threat, consciously or subconsciously. Whether this threat is real or perceived, it threatens social bonds and leads to the variety of issues discussed above.

In light of the strong effects of social exclusion, it is important that a solution or coping mechanism is found for therapeutic purposes. There is a small amount of research on this topic. One study attempted to alleviate the pain with acetaminophen. Participants were given acetaminophen or a placebo for three weeks and told to track their levels of social pain. Those who took acetaminophen reported less social pain on a daily basis than the placebo group. They also measured neural activity using fMRI and found that the acetaminophen group had a reduced neural response in areas associated with distress following exclusion compared to the placebo group. Still, they point out that this is not a valid or long-term solution (DeWall et. al., 2010). Following this study, Deckman, DeWall, Way, Gilman and Richman (2014) tested whether marijuana had a similar effect and found that it also lessened the pain associated with social exclusion. These studies have interesting results that illustrate the potential for drugs to help one cope. Nonetheless, drugs, especially marijuana, are ideally a last resort. In order to find methods that are less invasive, there is a need for research that examines other methods of coping with social exclusion.

Normative Information of Role Models

Role models can have a powerful effect in changing one's outlook, thus helping them through difficult situations. People are often reassured and do better in negative situations after receiving some normative examples of how people like themselves have coped with similar circumstances. They may also be inspired to perform better than they might have otherwise. Lockwood and Kunda (1997) have explored the ways a role model can have the most positive impact and how this might be used. In research, they showed some intricacies to the benefit a role model can provide. Participants who read about a relevant role-model whose success seemed

within reach predicted higher future success, self-ratings, and motivation for themselves. However, those role models whose success was relevant but beyond what participants viewed as achievable (i.e., they're out of time) promoted self-deflation in participants. These findings suggest that role models can be beneficial if they are perceived as both relevant and attaining success that seems to be within reach. Lockwood and Kunda (1999) found a further intricacy to the potential benefit of a role model. Here, some participants were asked to reflect on their best achievements prior to learning of a role model. For such participants, the role model had less of a positive effect for inspiration. To further examine which type of role models can provide the most benefit, Lockwood, Kunda, and Jordan (2002) published a study in which they targeted people's regulatory strategies. Those who were promotion-focused (achieving success) were more motivated by promotion-focused role models while those who were prevention-focused (avoiding negative outcomes) were more motivated by prevention-focused role models. From the works of Lockwood and Kunda, one can conclude that role models are helpful for creating inspiration, motivation, and a positive sense of self as long as they are similar enough to an individual to be relatable (in style, gender, age, etc.) and their achievements are not entirely out of reach.

Apart from Lockwood and Kunda's work, some other relevant studies show how role models can be a powerful tool to help people to cope and gain motivation. Counter-stereotypical role models can even influence the gender stereotypes that people hold so far as to influence girls' career choices (Olsson & Martiny, 2018). Marx and Roman (2002) found that an arithmetically high-performing female role model—learned of in-person or on paper—led women to perform better on math tests and have higher self-appraised math ability than those in the control group. Similarly, McIntyre, Paulson, Taylor, Morin, and Lord (2010) found that

women who were under stereotype threat, again for math, were able to more effectively cope with it and perform better after reading about other women role models. However, this was only the case if they deemed the role model to be deserving (she was independently successful).

Taylor et al. (2011) examined further to confirm that role models who are perceived as undeserving of their growth/success are not as likely to provide positive outcomes. These findings continue to show that an identifiable role model can help individuals find inspiration and cope with various negative situations.

The Process of Normalizing and Coping

Normalizing is the practice of taking a psychologically related stressor and presenting it to the person in a way that makes the experience seem typical. In essence, presenting a problem in a way that makes it seem more commonplace can lead one to feel that their experience is not too abnormal or difficult to overcome. It can give them hope in a negative situation. Most of the research on normalization shows attempts to help people and families of people with diseases or medical problems cope with their situation. For example, Rehm and Bradley (2005) examined the effect normalization can have on children and families of developmentally delayed children. They found that highlighting the aspects of these peoples' lives that remained normal and deemphasizing the abnormal helped families and children conclude that they could still have a good life. Similarly, Ferguson, Eamonn, Lawrence, and Claire (2013) found that people report higher stress levels when previously given the message that stress is good in some way and report lower levels when previously given the message that it is bad. This indicates that people may be more likely to indicate a certain feeling or report if it has been previously cast in a positive light. Informing participants that stress can have benefits is enough to make them more

likely to report higher levels of stress. This means that people may be likely to do this kind of reframing with other negative experiences as well. Because normalization has the ability to help people reframe their negative experiences in a more positive way, it has the potential to be an effective method of coping with tough situations.

Rationale for the Current Study

Social exclusion is a negative part of the human experience that is impossible to avoid (Williams, 2007). However, researchers have yet to find a consistent and safe strategy to relieve this burden. Researchers have found that role models can help people cope with negative experiences (McIntyre et. al, 2011). They seem to help by providing a sense of inspiration and the feeling that what they are going through is normal, that others have succeeded in their situation as well. The latter of these points is known as normalization. Role models and the process of normalization can help people reframe their situation, making it seem more positive or manageable (Feguson et. al., 2013). The current study sought to examine whether this positive effect will extend to the issue of social exclusion. Based on previous research in these areas, the present study attempted to determine whether knowledge of role models who have gone through a loss of social ties and have overcome it may ease the negative feelings one experiences after social exclusion. As such, the hypotheses were as follows. Social exclusion would cause a decline in levels of meaningfulness, belongingness, control, and self-esteem compared to social inclusion. Additionally, participants who were excluded but then read of a role model who had overcome exclusion would have responses similar to the included participants.

Methods

Participants

Fifty-seven Eastern Michigan University (EMU) undergraduates participated in the current study. They signed up through EMU's online SONA academic research system online. Participants arrived at a lab on campus and completed what they thought was a multi-lab study looking at how people communicated without verbal cues, and then how well they could recall a pilot essay. Participants received a research credit for participation, which gave them extra points in class. Apart from this credit, participants received no compensation for their participation.

Procedures and Materials

Participants were scheduled to participate in a study focusing on the influence of simple tasks on mood and cognitive efficiency. Upon arrival, participants were greeted by the researcher and provided with informed consent (see Appendix A). After having read this, they were given the option to sign and continue or decline and opt out of participation. If the participant did sign, the researcher proceeded to administer survey one (see Appendix B). This was a fifteen-question survey, designed by the experimenters, that measured the participant's baseline feelings and reactions to social experiences on a nine-point scale from "*not at all true of me*" to "*very much true of me*." For example, one question read: "I feel that other people include me on a regular basis." Following the completion of survey one, the researcher turned on the computer, which had the instructions for Cyberball pulled up. Cyberball is a virtual, programmable game of catch, where the player throws a ball two other computer-generated players and they throw it back a set number of times. For the purposes of the study, however, participants were told that the players were not computer-generated but were real participants in other labs. Participants were asked to

use their imagination to get a deeper sense of the people they would be playing with, as the study would analyze their cognitive load. While the participant read the Cyberball instructions, the researcher stepped into the hall to pretend to call the other labs so the game could begin.

Participants were randomly assigned into one of four Cyberball conditions – one true control group, two manipulation control groups, and one experimental group. Those in the control condition played a version of Cyberball in which they received the same number of throws as the other “players” ($\frac{1}{3}$). Those in the other three groups (2 manipulation control groups 1 experimental group) played a version of Cyberball in which they received fewer throws than the other “players” ($\frac{1}{6}$). Once the game was completed, those in the control condition, were asked to sit quietly for four minutes. The subjects in the three experimental conditions differed in their post-Cyberball tasks. One manipulation control group was asked to sit quietly for four minutes. The second manipulation control group was asked to read a neutral essay about the Panama Canal (see Appendix C). The purpose of this condition was to determine if reading any essay would be better than reflecting on one’s experience of exclusion because it would serve as a distraction. The experimental group was asked to read an inspirational essay with a role-model (see Appendix D). In this essay, a woman describes her experience of divorce. She describes how she overcame the loss, the exclusion, and subsequently came to believe that her life was better after the loss. This was the condition we expected would show scores similar to the control condition.

Following the game of Cyberball and the post-Cyberball task, participants across all conditions were asked to fill out surveys two and three. Survey two was a forty-two question survey designed by the researchers to evaluate feelings of meaningfulness, belongingness,

control, self-esteem, negative emotions, and positive emotions following the cyberball tasks (see Appendix E). Participants were to indicate “not at all true of me” to “very much true of me” on a nine point scale in response to questions such as, “I feel like I am an outsider during social interactions” or “I feel I am in control of my life.” Survey three included a comprehension check for the conditions that read an essay, demographics, and questions about recent, highly impactful social experiences participants may have had (see Appendix F). Finally, the researcher asked the participant about their experience, explained that there was deception, and asked the participant if they could identify when this deception occurred (in the Cyberball game). Participants who could identify the deception were flagged for later reference. Finally, the researcher provided the participant with a debriefing form (see Appendix G) and showed them out.

Results

No differences were found for baseline measures across conditions on the social needs measures, $F_s < 1$, p_s , ns. Thus, only post-Cyberball measures were examined.

Psychometric properties of subscales of the “needs” questionnaire

Each of the items examining participant reactions to the needs measures were first analyzed to see if the items could be averaged together as a single measure or factor. For the five items that were about participants feelings of meaningfulness (e.g., I feel the things I do with others have meaning), these items were examined with a principle-components analysis that found the items loaded on one factor that accounted for 55.62% of the score variability on those items (Factor loadings were .49 to .85). Additionally, the five items all were highly related, $\alpha =$

.789. As such, these items were averaged together into a composite mean for the social need of meaningfulness (average composite meaningfulness = 6.38; $SD = 1.31$).

The six items that asked about participants' feelings of belongingness (e.g., I felt poorly accepted by the other participants), were also examined with a principle-components analysis. It was found that the items loaded onto one factor that accounted for 43.14% of the score variability on those items (factor loadings were 0.45 to 0.76). Additionally, the items were reliably interrelated, $\alpha = .64$. Consequently, the item scores were averaged together into a composite mean for the social need of belongingness (average composite belongingness = 5.73; $SD = 1.19$).

The five items that asked about participants' feelings of self-esteem (e.g., During the online game, I felt good about myself) were examined with a principle-components analysis that found that they loaded onto one factor that accounted for 54.76% of variability on those items (factor loadings were 0.49 to 0.88). The items were highly interrelated, $\alpha = 0.77$ and consequently, were averaged together into a composite mean for the social need of self-esteem (average composite self-esteem = 6.18; $SD = 1.65$).

The six items that asked about participants' feelings of control (e.g., I feel I am in control of my life) were examined with a principle-components analysis that found they loaded onto one factor that accounted for 33.13% of the variability on those items (factor loadings were 0.33 to 0.72). The items were reliably interrelated, $\alpha = 0.64$ and consequently averaged together into a composite mean for the social need of control (average composite control = 5.58 $SD = 1.14$).

Tests of hypotheses

To examine the main hypothesis, that having exposure to a role model who has previously overcome social loss would buffer individuals from situationally induced exclusion, we compared groups on each of the needs measures separately using a one-way analysis of variance (ANOVA). For meaningfulness, there was a significant main effect of condition, $F(3, 53) = 3.346, p = .026$. Overall, it was hypothesized that those in the included group would have higher scores on subscales of the needs questionnaire (i.e., meaningfulness, belongingness, self-esteem, and feelings of control) than two manipulation control groups (excluded neutral and excluded) but would not differ from the excluded role model group. As can be seen in Table 1, and as confirmed by post-hoc LSD tests, participants in the included group had higher scores on meaningfulness than those in the two manipulation control groups and did not differ from the excluded role model group. The scores for the excluded-role-model-essay condition participants, however, were not significantly higher than that in the other conditions, (post-hoc LSD test $ps > .05$).

Table 1: Mean composite values for meaningfulness across conditions

	Included Participants	Excluded Role Model Participants	excluded- neutral-essay Participants	excluded-only Participants
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Meaningfulness	7.25	6.36	5.92	6.02
Average	(1.23)	(1.11)	(1.38)	(1.22)
	<i>14</i>	<i>15</i>	<i>14</i>	<i>14</i>

Note: standard deviations are in parentheses, n per group in italics.

For belongingness, there was a significant main effect of condition, $F(3, 53) = 6.545, p = .001$. As can be seen in Table 2, and as confirmed by post-hoc tests, the included group had higher scores on belongingness than those in the two manipulation control groups. However, the included group was also higher than the excluded role model group. Put in a slightly different way, reading the story depicting a successfully coping role model was not sufficiently potent to overcome the ill-effects of being excluded for belongingness.

Table 2: Mean composite values for belongingness across conditions

	Included Participants	Excluded Role Model Participants	excluded- neutral-essay Participants	excluded-only Participants
Belongingness	6.78	5.47	5.54	5.16
Average	(1.04)	(0.98)	(1.27)	(0.84)
	<i>14</i>	<i>15</i>	<i>14</i>	<i>14</i>

Note: standard deviations are in parentheses, n per group in italics.

For self-esteem, there was a significant main effect of condition, $F(3, 53) = 3.164, p = .032$. As can be seen in Table 3, and as confirmed by post-hoc tests, the included group had higher scores on self-esteem than those in the two manipulation control groups. The included group was also higher than the excluded role model group. Once again, reading the story depicting a successfully coping role model was not sufficiently potent to overcome the ill-effects of being excluded for self-esteem. (post-hoc LSD test $ps > .05$).

Table 3: Mean composite values for self-esteem across conditions

	Included Participants	Excluded Role Model Participants	excluded- neutral-essay Participants	excluded-only Participants
Self-esteem Average	7.27 (1.39) <i>14</i>	5.97 (1.73) <i>15</i>	5.87 (1.67) <i>14</i>	5.61 (1.42) <i>14</i>

Note: standard deviations are in parentheses, n per group in italics.

For control, there was a significant main effect of condition, $F(3, 53) = 6.145, p = .001$. As can be seen in Table 4, and as confirmed by post-hoc tests, the included group had higher scores on control than those in the two manipulation control groups as well as the excluded role

model group. This once again shows that the role-model essay was not enough to overcome the effects of exclusion on control (post-hoc LSD test $ps > .05$).

Table 4: Mean composite values for control across conditions

	Included Participants	Excluded Role Model Participants	excluded- neutral-essay Participants	excluded-only Participants
Control Average	6.57 (0.88) <i>14</i>	5.30 (1.01) <i>15</i>	5.11 (1.30) <i>14</i>	5.35 (0.77) <i>14</i>

Note: standard deviations are in parentheses, n per group in italics.

Discussion

Being socially excluded can have detrimental effects, both mentally and physically (Kleicolt-Glaser et al., 1984 and DeWall et.al., 2011). Few studies have been able to reliably find anything that will mitigate the effects of social exclusion. One of the few options discovered thus far is acetaminophen, which, in addition to lessening pain in general, seems to mitigate the pain of social exclusion (DeWall et. al., 2010). Still, we are left without a drug-free option.

The data from the current study lead us to the conclusion that normalization through role model essays can buffer some, but not all, of the negative effects of social exclusion. It seems to

negate or at least mitigate these negative effects for meaningfulness. The role model group still shows a lack of belongingness, control, and self-esteem following exclusion. It may be the case that the role model essay provided to participants in this study modeled an increase in meaningfulness but not the other aspects of exclusion, so that is what participants got out of it. This would be consistent with previous studies that have shown how influential role models can be when they show improvement or success in a specific thing. For example, Marx and Roman (2002) have shown that a skilled female role model in math will lead women to report higher self-appraisal of their math skills. McIntyre, Paulson, Taylor, Morin, and Lord (2010) had similar results, with the further intricacy that the role model must be deserving of their success. Clearly, it is important for role models to be quite specifically tailored to the situation if they are to have the maximum effect. Since the most powerful role models seem to be the ones who provide the most specific forms of reassurance, it makes sense that the participants in the current study only saw improvement in the social needs mentioned in the role model essay. If this is the case, a future study may look at what kind of impact different types of role models can have in mitigating the effects of social exclusion (i.e. one that shows growth in self-esteem, control, etc.).

Similarly, the role model in the current study may not have been as relatable to participants as possible. She was a divorcee, which is not something that many of the participants in this study could have related to. Therefore, a further improvement could be made in the essay so that it is more relatable for those in the study. For example, among college students a role model successfully coping with a breakup might be more 'relatable.'

This study does have some other weaknesses. One is that the ruse of calling of other labs may not have been convincing. A thoughtful participant might have recognized that calling the

other labs should take more time than we gave it (30 seconds), because we were supposedly collaborating with two other labs who may not have been on the exact same schedule. If the participant noticed that, they may have been very likely to suspect that they were being deceived, though participants were screened for that at the end of the study. Another important improvement would be an increase in sample size, ideally at least a doubling of the current numbers. The current sample size does not allow for data that is exceedingly strong and resilient. One way to improve this study would be to replicate it with a longer gap for the calling of the other labs (or a different story), and a larger sample size. The most important change, however, would be to edit the role model essay to see how it would impact the results. In this case, there would be one essay to target each social need (self-esteem, control, etc.). Based on the results from this and other studies, a role model who shows specific strengths is likely to improve their mentee's feelings about that specific area. This means that the role model essay targeting meaningfulness (as in the current study) will improve participants' feelings of meaningfulness, while the essay targeting control will improve participants' feelings of control and so on. The idea is to continue future research in that direction, with a larger sample size.

References

- Baumeister, R., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529.
- Deckman, T., Dewall, C., Way, B., Gilman, R., & Richman, S. (2014). Can Marijuana Reduce Social Pain? *Social Psychological and Personality Science*, 5(2), 131-139.
- Dewall, C., Macdonald, G., Webster, G., Masten, C., Baumeister, R., Powell, C., . . .
- Eisenberger, N. (2010). Acetaminophen Reduces Social Pain: Behavioral and Neural Evidence. *Psychological Science*, 21(7), 931-937.
- DeWall, C., Deckman, T., Pond, R., & Bonser, I. (2011). Belongingness as a Core Personality Trait: How Social Exclusion Influences Social Functioning and Personality Expression. *Journal of Personality*, 79(6), 1281-1314.
- Downey, G., Mougios, V., Ayduk, O., London, B. & Shoda, Y. (2004). Rejection Sensitivity and the Defensive Motivational System: Insights from the Startle Response to Rejection Cues. *Psychological Science*.
- Eisenberger, N. I., Lieberman, M. D. (2004). Why rejection hurts: a common neural alarm system for physical and social pain. *Trends in Cognitive Sciences*.
- Ferguson, Eamonn, & Lawrence, Claire. (2013). Normative and counter-normative stress messages and symptom reporting: Implications for health promotion and a

- methodological artefact for stress research. *British Journal Of Health Psychology*, 18(2), Pp279-295.
- Gonsalkorale, K. & Williams, K. D. (2007) The KKK won't let me play: Ostracism even by a despised outgroup hurts. *European Journal of Social Psychology*.
- Hawkley, L. C., Burleson, M. H., Berntson, G. G., & Cacioppo, J. T. (2003). Loneliness in everyday life: Cardiovascular activity, psychosocial context, and health behaviors. *Journal of Personality and Social Psychology*, 85(1), 105-120.
- Hayman, L., McIntyre, R., & Abbey, A. (2015) The Bad Taste of Social Ostracism: The Effects of Exclusion on The Eating Behaviors of African-American Women. *Psychology and Health*.
- House, J., Landis, K., & Umberson, D. (1988). Social Relationships and Health. *Science*, 241(4865), 540-545.
- Kiecolt-Glaser, J., Ricker, D., George, J., Messick, G., Speicher, C., Garner, W., & Glaser, R. (1984). Urinary cortisol levels, cellular immunocompetency, and loneliness in psychiatric inpatients. *Psychosomatic Medicine*, 46(1), 15-23.
- Leary, M., Kelly, K., Cottrell, C., & Schreindorfer, L. (2013). Construct Validity of the Need to Belong Scale: Mapping the Nomological Network. *Journal of Personality Assessment*, 95(6), 610-624.

- Lockwood, P., & Kunda, Z. (1997). Superstars and me: Predicting the impact of role models on the self. *Journal of Personality and Social Psychology*, 73(1), 91-103.
- Lockwood, P., & Kunda, Z. (1999). Increasing the salience of one's best selves can undermine inspiration by outstanding role models. *Journal of Personality and Social Psychology*, 76(2), 214-228.
- Lockwood, P., Jordan, C., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology*, 83(4), 854-864.
- Marx, D., & Roman, J. (2002). Female Role Models: Protecting Women's Math Test Performance. *Personality and Social Psychology Bulletin*, 28(9), 1183-1193.
- McIntyre, R., Paulson, R., Taylor, C., Morin, A., & Lord, C. (2011). Effects of role model deservingness on overcoming performance deficits induced by stereotype threat. *European Journal of Social Psychology*, 41(3), 301-311.
- Olsson, M., & Martiny, S. (2018). Does Exposure to Counterstereotypical Role Models Influence Girls' and Women's Gender Stereotypes and Career Choices? A Review of Social Psychological Research. *Frontiers in Psychology*, 9, 2264.
- Rehm, R., & Bradley, J. (2005). Normalization in Families Raising a Child Who Is Medically Fragile/Technology Dependent and Developmentally Delayed. *Qualitative Health*

Research, 15(6), 807-820.

Taylor, C., Lord, C., McIntyre, R., & Paulson, R. (2011). The Hillary Clinton effect: When the same role model inspires or fails to inspire improved performance under stereotype threat. *Group Processes & Intergroup Relations, 14(4), 447-459.*

Walker, Alan, & Walker, Carol. (1997). *Britain divided : The growth of social exclusion in the 1980s and 1990s* (Poverty publication ; 96). London: CPAG.

Williams, K., Bernieri, F., Faulkner, S., Gada-Jain, N., & Grahe, J. (2000). The Scarlet Letter Study: Five Days of Social Ostracism. *Journal of Personal and Interpersonal Loss, 5(1), 19-63.*

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*

Zhong, C., & Leonardelli, G. (2008). Cold and Lonely: Does Social Exclusion Literally Feel Cold? *Psychological Science, 19(9), 838-842.*

Appendix A

The Influence of Simple Tasks on Mood and Cognitive Efficiency**Informed Consent Form**

The person in charge of this study is Autumn Chall. Autumn Chall is a student at Eastern Michigan University. Her faculty adviser is Rusty McIntyre.

Purpose of the study

You are being asked to volunteer for a research study of how simply tasks, such as playing an online game is related to cognitive efficiency. This study is being conducted at Eastern Michigan University.

What will happen if I participate in this study?

Participation in this study involves

- Playing a game of online catch with other players.
- Possibly reading over some materials to assess cognitive efficiency in detail and recall.
- These materials are experimental in nature and some differences in experimental treatments will occur. As you may know, in some research the procedures are straightforward and provide participants with a high degree of face validity. You may also be aware that some research may involve some degree of deception concerning the purposes of the study, the design of the study, and even what the specific instruments measure. As such, this is one of those latter studies. Please realize, however, any use of deception will be fully disclosed upon completion of the experimental session.
- In the study, you will play catch, read over some materials and make some self-assessments, do a recall task (others may not read and would thus skip this task), and complete a closing questionnaire including demographics.
- The study will last approximately 50 minutes (but not more than 60 minutes), and will require only one session.

What are the anticipated risks for participation?

There are no anticipated physical or psychological risks to participation.

Additionally, some of the personal descriptions you list, as well as the closing survey questions might be personal in nature and may make you feel uncomfortable. You do not have to answer any

questions that make you uncomfortable or that you do not want to answer. Moreover, it is possible that some students may experience heightened anxiety as a result of the research experience. That anxiety, however, is usually temporary and typically dissipates during, or shortly after, the research experience. If during the study you experience an uncomfortable level of anxiety or psychological discomfort, please let the experimenter know about this so that they will stop the study at once and take you to Counseling and Psychological Services.

Are there any benefits to participating?

As a participant in this research study, you will not benefit personally from the study. The research will also help to inform the scientific community online interactions with others are related to the essay contents, and may lead to a presentation or publication in a research journal (but no information linking you to the study will be used).

What are the alternatives to participation?

The alternative is not to participate.

How will my information be kept confidential?

None of the data from this research will be linked to any identifying information. Your data will be kept confidential by not using any identifiers with your information and the data. The data completed for this study will be stored in a password protected computer in the psychology department. We will make every effort to keep your information confidential, however, we cannot guarantee confidentiality. There may be instances where federal or state law requires disclosure of your records.

Other groups may have access to your research information for quality control or safety purposes. These groups include the University Human Subjects Review Committee, the Office of Research Development, the sponsor of the research, or federal and state agencies that oversee the review of research. The University Human Subjects Review Committee reviews research for the safety and protection of people who participate in research studies.

We may share your information with other researchers outside of Eastern Michigan University. If we share your information, we will remove any and all identifiable information so that you cannot reasonably be identified.

The results of this research may be published or used for teaching. Identifiable information will not be used for these purposes.

While your information is not linked to this study with any identifiers. Your name is listed on the SONA website for participation. Students and your professor will see that you participated in the study. The researchers of this study will use this to grant you course credit.

Are there any costs to participation?

Participation will not cost you anything.

Will I be paid for participation?

You will not be paid to participate in this research study. You will receive 2.5 hours of Sona credit if you complete this study. If you decide to stop and discontinue participation, you will receive 1 hour of Sona credit.

Study contact information

If you have any questions about the research, you can contact the Principal Investigator, Autumn Chall, at achall@emich.edu. You can also contact Autumn Chall's adviser, Dr. Rusty McIntyre, at rmcinty4@emich.edu or by phone at 734.487.2406.

For questions about your rights as a research subject, contact the Eastern Michigan University Human Subjects Review Committee at human.subjects@emich.edu or by phone at 734-487-3090.

Voluntary participation

Participation in this research study is your choice. You may refuse to participate at any time, even after signing this form, with no penalty or loss of benefits to which you are otherwise entitled. You may choose to leave the study at any time with no loss of benefits to which you are otherwise entitled. If you leave the study, the information you provided will be kept confidential. You may request, in writing, that your identifiable information be destroyed. However, we cannot destroy any information that has already been published.

Statement of Consent

I have read this form. I have had an opportunity to ask questions and am satisfied with the answers I received. I give my consent to participate in this research study.

Signatures

Name of Subject

Signature of Subject

Date

I have explained the research to the subject and answered all his/her questions. I will give a copy of the signed consent form to the subject.

Name of Person Obtaining Consent

Signature of Person Obtaining Consent

Date

Appendix B

Survey One Questions

I feel that other people include me on a regular basis.

	1	2	3	4	5	6	7	8	9
Not at all									Very Much
True of me									True of Me

How often do you feel others include you in real life?

	1	2	3	4	5	6	7	8	9
Never									Always

At times, I feel inadequate during social interactions.

	1	2	3	4	5	6	7	8	9
Not at all									Very Much
True of me									True of Me

I feel bored in social situations.

	1	2	3	4	5	6	7	8	9
Not at all true of me									Almost always true of me

I am usually quite skilled in social situations.

	1	2	3	4	5	6	7	8	9
Not at all true of me									Almost always true of me

Given how others normally treat you, how much do you think you would include others in your own activities?

	1	2	3	4	5	6	7	8	9
--	---	---	---	---	---	---	---	---	---

Not at All

Very Much

How likely are you to include or exclude another person based upon them treating you in the same way?

1 2 3 4 5 6 7 8 9
 Not at All Very Much

Right now, I would say I care a good deal about the thoughts and feelings of others.

1 2 3 4 5 6 7 8 9
 Not at All Very Much

To what extent does your interest in the feelings of others seem to matter right now?

1 2 3 4 5 6 7 8 9
 Not at all Very Much So

I feel like I am an outsider during social interactions.

1 2 3 4 5 6 7 8 9
 Not at all Very Much
 True of me True of Me

I feel I am in control of my life.

1 2 3 4 5 6 7 8 9
 Not at all Very Much
 True of me True of Me

Appendix C

How International Infrastructure has been Impacted by the Panamax.

J. Hudzik

June 4, 2016 --- 8:31 AM

In an effort to surpass the previous limits of its capacity the Panama Canal underwent an ambitious expansion program that began in 2007 and is now complete. The size limitations on ships passing through the Panama Canal has such a significant effect on international shipping that it led to a designation of ship size, the Panamax. With that size limitation set to expand US ports have been assessing their own capacity to service large shipping. One of those ports is the Harbor of Savannah in Savannah Georgia. In 2012 the US Army Corps of Engineers completed the planning and approval process for the Savannah Harbor Expansion Plan (SHEP).

The SHEP is a large program that involves over \$300 million and is set to last 50 years. A big portion of that comes down to the fact that a segment of the planned expansion runs near the Savannah National Wildlife Refuge. Within that refuge is a sensitive wetland ecosystem. The presence of the wetlands adds to the environmental stakes that would accompany any project the size and nature of the SHEP. Consideration of the prospective financial gains for the region, the risks to the environment associated with the project and the possibility that costs can spiral beyond those budgeted, particularly should an environmental disaster occur are well in order.

A whole range of steps are incorporated into the SHEP to protect and monitor the environment throughout the project and after. A fish bypass, an oxygen injection system, marsh restoration program and ongoing environmental monitoring systems are all built into the SHEP. Nearly half of the budget for the SHEP is marked for environmental impact mitigation. That said there are organizations such as the Georgia Conservancy that claim the environmental provisions within the SHEP are inadequate. They call for additional funds and measures to protect the environment as the SHEP progresses.

Should the costs of the SHEP rise to levels difficult to sustain it is possible depending on how far along the project is to limit its scope. The depth goal of the SHEP is based upon a calculated sweet spot balancing cost against the depth standard set by the Panama Canal expansion. Assuming the project has not progressed too far the scope of the SHEP could conceivably be lowered by reducing the target depth and thus reducing the cost.

It is important to note that it is even possible to shut the SHEP down completely if conditions warranted. Yes the expansion of the Panama Canal will lead a larger average ship size but that does not mean fleets will be immediately retiring their smaller vessels. Another point is that Norfolk Virginia is already sufficient to meet that increase. Other port cities are also capable of expanding their max depth capacity. Charleston has already received approval for an Army Corps of Engineers feasibility study. Other ports are all too eager to expand their capacity to meet and exploit the changing conditions made possible by the expansion of the Panama Canal. This means that while shutting down the SHEP would hurt the prospects of the surrounding region the port could still operate and other ports are available to respond to the change in capacity demand.

That said the long preliminaries for the SHEP have been completed and the SHEP is already begun work. Work such as the excavation of the Civil War Ironclad CSS Georgia. Even though there are alternative ports, Savannah is well positioned to supply a growing southern population. Norfolk primarily serves the north and the midwest. Charleston may indeed be a viable alternative but as Savannah can attest the combination of a feasibility study followed by the planning process is a long road to hoe before any actual dirt is turned . Should continued support for the SHEP be the order of the day that support should not rest easy just because work has already begun.

Additional measures to protect the environment from the impacts of the SHEP on the resulting shipping traffic would of course be ideal but they run the risk of being so burdensome that they could undermine the project. While constraining the scope of the SHEP is a conceivable method of reducing the cost and impact of the project, it would be very dependant on the timing, and would require significant redesign while reducing the returns on the development. A full stop on the development of Savannah harbor should not be done lightly. A great deal of time and money has already gone into bringing this project into being. This would be in addition to the lost potential revenue expanding the harbor would make possible.

As work proceeds on the SHEP, just how true to design the project is will be revealed. A variety of interested parties are going to be watching closely. Environmentally minded parties will be looking for reasons to justify further protection methods or even to shut the project down if they become convinced unacceptable harm is being done. If pressure should build against the SHEP, financially minded supporters may try to salvage the expansion by reducing its scope as an alternative to cancelling. Environmentalists might pursue the same should they feel that additional protections are not achievable and that their best hope of protecting the environment is to reduce the scale of the SHEP to lower the impact. The SHEP itself has a lot going for it at present from the need for return on what has already been invested, to the projected financial

boon the completed plan is slated to generate. Even so the SHEP can be altered or derailed by a variety of events and interests.

Appendix D

How I Found Peace After Being Cheated On & Ending My Marriage

Elli Boland

June 4, 2014 — 8:31 AM

I am getting a divorce. Today would be our 12 year and 11-month anniversary. I wonder if I'll ever stop counting. When I said "yes" at age 23, I had no idea who I was, what I wanted, or what I was supposed to do.

I had just immigrated from Germany to America to be with my dream guy. I turned off my flirt, and part of my bubbly and blunt personality. I devoted myself to being an epic wife. And I was really proud of it all. We grew into each other, and as a hopeless romantic, I felt so loved, accepted, and safe. What I really didn't know consciously, was that I had just jumped from one codependent box into the next.

I woke up, just to fall asleep again. And that had nothing to do with my husband, and all to do with the stories I made up about myself, who I was supposed to be, how others wanted me to be, and how life should look. I turned my painful childhood, being raped, and having an eating disorder, into opportunities to grow, to forgive, and to love more.

Through it, I found my purpose and became a life coach to help others walk through the fire. I asked spirit to help me to step into my power. And I clearly remember asking to be shown everything that I needed to know in this lifetime.

Well, ask and you shall receive.

On September 7, 2013 at 6:30pm, the fire started. My husband, best friend, and my only family for thousands of miles, revealed to me that he had been unfaithful. Over the next four months, he admitted to me: 10 women in 10 years. One of them was a dear friend that told me she loved me. Two of them are yoga teachers. Most of them live in this town, and I probably know them too.

My world was turned. Spinning actually. Being a life coach, yogi, and having epic friends gave me the tools to embrace the darkness, but it did not make the pain any less, or shorten the time it took for the grief to move through me.

I contemplated suicide twice. I cried for a month, chain smoked, ate whatever the heck I wanted, watched a lifetime's worth of Netflix movies, crawled on the floor, and dragged myself to yoga classes. I spent most of my time alone. The pain was so intense that occasionally I felt as though I had left my body and my legs would give out. At that moment, I had the sense that I had lost all meaning in my life. That I had no control over what life threw at me, and even felt that I had no

fulfillment of belongingness. All I could do was surrender, to get really vulnerable, and to let spirit guide me through.

Then, suddenly, I got present once again. I found an aliveness and ocean of joy and peace. Clarity and freedom coexisted with sorrow, terror, panic, and deep sadness. But I was not afraid of feeling the pain anymore. I no longer cared about the good opinion of other people. I had to make choices.

How can I handle this in a way that is in alignment with what I believe to be true?

What would make me proud?

How do I want this story to end?

How can I show up for myself fully?

What good is coming from this?

What is my lesson?

I did not just want to survive divorce, ignore the pain by being busy or pretending that I was feeling happy. And I certainly did not want to live life with the label “brokenhearted” on my forehead. Fuck that. I am gonna thrive. I am going to take control of my life. I am going to love myself and believe that I am as worthy as any other person alive.

Back to this moment. I am falling out of love with my husband. I forgive him. I forgive myself. I know there is nothing wrong with me and that his choices had nothing to do with me. I feel more alive and connected than ever. I have nothing figured out, and am totally comfortable with uncertainty now. I cry when I feel sad, and nurture myself when I experience the void. I give thanks for it all. I know now, that despite the worst that fate can throw at me, despite what others might do that makes life seem meaningless, that if I buckle down, if I look for the silver lining, that I will find it, and that things can, do, and will get better if only we look for the better.

My ex and I are now on even terms. We cherish our million memories, and even share our dog. And I promise myself that if and when I love that deeply again, I am going to pay attention. I am going to savor each moment, each kiss, and each word. And I keep living my life to the fullest, independently and fierce, and interdependent with my lover. Till then, I keep taking it moment by moment, spending time with my imperfectly perfect self.

1 2 3 4 5 6 7 8 9
 Not at all Very Much
 True of me True of Me

I feel that other people sometimes fail to see me as a likable or worthy person.

1 2 3 4 5 6 7 8 9
 Not at all Very Much
 True of me True of Me

I feel that my presence in many situations might be described as meaningless.

1 2 3 4 5 6 7 8 9
 Not at all Very Much
 True of me True of Me

I felt as though I had made a "connection" or bonded with one or more of the participants during the online game.

1 2 3 4 5 6 7 8 9
 Strongly Disagree Strongly Agree

I felt somewhat frustrated during the online game.

1 2 3 4 5 6 7 8 9
 Strongly Disagree Strongly Agree

I felt that the other participants failed to perceive me as a worthy and likable person.

1 2 3 4 5 6 7 8 9
 Strongly Disagree Strongly Agree

I felt non-existent during the online game.

1 2 3 4 5 6 7 8 9
 Strongly Disagree Strongly Agree

True of me True of Me

I enjoyed playing the online game.

1 2 3 4 5 6 7 8 9

Strongly Disagree Strongly Agree

When thinking about social interactions, I commonly feel angry.

1 2 3 4 5 6 7 8 9

Not at all Very Much

True of me True of Me

To what extent are you currently angry?

1 2 3 4 5 6 7 8 9

Not at all Very

When thinking about social interactions, I commonly feel sad.

1 2 3 4 5 6 7 8 9

Not at all Very Much

True of me True of Me

To what extent are you currently sad?

1 2 3 4 5 6 7 8 9

Not at all Very

To what extent were you included by the other participants during the game?

1 2 3 4 5 6 7 8 9

Not at all Included Very Included

To what extent do you think people include you in activities (e.g., conversations, parties, going to eat; etc.) on a daily basis?

1 2 3 4 5 6 7 8 9
 Not at all Included Very Included

How much would you enjoy playing another round of this game?

1 2 3 4 5 6 7 8 9
 Not at all Very Much

How much would you enjoy playing a different game with these other players (e.g., cards)?

1 2 3 4 5 6 7 8 9
 Not at all Very Much

I feel bored in social situations.

1 2 3 4 5 6 7 8 9
 Not at all true of me Almost always true of me

I am usually quite skilled in social situations.

1 2 3 4 5 6 7 8 9
 Not at all true of me Almost always true of me

Given how others normally treat you, how much do you think you would include others in your own activities?

1 2 3 4 5 6 7 8 9
 Not at All Very Much

How likely are you to include or exclude another person based upon them treating you in the same way?

1 2 3 4 5 6 7 8 9
 Not at All Very Much

Right now, I would say I care a good deal about the thoughts and feelings of others.

1 2 3 4 5 6 7 8 9
Not at All Very Much

To what extent does your interest in the feelings of others seem to matter right now?

1 2 3 4 5 6 7 8 9
Not at all Very Much So

I feel like I am an outsider during social interactions.

1 2 3 4 5 6 7 8 9
Not at all Very Much
True of me True of Me

I feel I am in control of my life.

1 2 3 4 5 6 7 8 9
Not at all Very Much
True of me True of Me

When I am around others, I feel non-existent.

1 2 3 4 5 6 7 8 9
Not at all Very Much
True of me True of Me

Appendix F

Survey Three Questions

If you did NOT read an essay, please skip the questions on this page. If you read an essay please answer the questions below. Only half of the questions will apply to your essay. Please skip the question that do not apply.

How I Found Peace After Being Cheated On & Ending My Marriage/How International Infrastructure has been Impacted by the Panamax.

How old was the author when she said “yes?” _____.

What has led to the deepening of ports worldwide because of the Panamax? _____.

How many women did the author’s husband cheat on her with? _____.

What ports, other than Savannah GA, might be related to the Panamax expansion?
_____?

Demographics

How old are you?

To which gender category do you identify?

Female Male Other

To which racial/ethnic category do you identify?

- Asian American
- African American
- Caucasian
- Hispanic/Latino
- Native American
- Other

What is your current relationship status?

- Single
- Dating, but not too serious
- Engaged
- Married

If single, how recent was your most involving relationship you had with another person?
How impactful, do you feel, was the end of that relationship to your sense of self?

What is the marital status of your birth parents?

- Currently Married (to each other)
- Currently Divorced
- Separated
- Unknown
- Other

How many siblings do you have?

How would you describe your socioeconomic standing of your household?

Low SES

Middle SES

High SES

How recent was your last meaningful social interaction with others for whom you care about in hours (e.g., 1 hour ago; 3 hours ago; 36 hours ago, etc.? _____).

Please indicate (in the space provided) any major life events or experiences you have had recently that you feel have changed to the way you look at yourself.

Appendix G

Debriefing Form

Thank you for participating in this study! We hope you enjoyed the experience. This form provides background about our research to help you learn more about why we are doing this study. Please feel free to ask any questions or to comment on any aspect of the study.

At the beginning of this study, you were told that the purpose was to gain a better understanding of cognitive load types and how they affect mood. You were randomly assigned to groups and asked to perform multiple tasks. You asked to focus on these tasks and answer questions about how they affected you.

As you may know, some studies use deception in situations where there is no other way to conduct the experiment without a level of bias. We are very sorry to say that the current study did involve deception. Unfortunately, it was necessary to use deception because, had participants know the true nature of the study, responses would have been likely to change.

In reality, the purpose of this study is to investigate the idea that role models who have gone through a loss of social ties and overcame it may provide a buffer for negative feelings after social exclusion. In this study, we have a group that is included and a group that is excluded in a game of online catch. The other “participants” in this game are completely computer-generated and programmed to either include or exclude the user. Whether one was included or excluded was completely random. Of those excluded, there were groups asked to do different things before

filling out the four measures. One was asked to wait a few minutes, another was given a neutral essay and asked to answer questions about it, and another was given a role-model essay and asked to answer questions about it.

The data from this study will be presented in groups in research journals, however we want to assure you that no identifying information will be used. All data will be kept secure, only to be analyzed by trained researchers. Nonetheless, if you feel uncomfortable with this study, your participation in this is still voluntary. If you wish, you may withdraw after reading this debriefing form, at which point all records of your participation will be destroyed. You will not be penalized if you withdraw. You can also feel free to contact the investigator with any further questions.

<u>Investigator</u>	<u>Contact Number</u>	<u>Email</u>
Rusty McIntyre	(734)536-4105	rmcinty4@emich.edu

If you want more information about your rights as a participant or want to report a research-related harm, you may contact the Institutional Review Board at (734) 487-3090.