Linguistic Shifts:

Examining the Effects of 'Distanced Self-Talk' and 'Generic-You' on the Construction of Meaning

by

Ariana Orvell

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Psychology)
in the University of Michigan
2019

Doctoral Committee:

Professor Ethan Kross, Chair
Professor Ozlem Ayduk, University of California, Berkeley
Professor Susan Gelman
Professor Denise Sekaquaptewa

Ariana Orvell

aorvell@umich.edu

ORCID iD: 0000-0003-2574-2951

DEDICATION

This dissertation is dedicated to J.M Barrie, F. Scott Fitzgerald, Franz Kafka, Amy Kurzweil, V.S. Pritchett, Zadie Smith and all the writers who have perceptively woven distanced self-talk and generic-you into their narratives in the most logical of places. Thank you for the inspiration.

ACKNOWLEDGMENTS

When I first moved to Michigan, I expected to be there for only a year or two. To my surprise, I have spent nearly six years in Ann Arbor, growing as a person and as a scientist. I am grateful to the many people who have supported that growth and learning over the years.

To the Psychology faculty—thank you for creating an environment that challenges students to think like researchers from day one. I am especially grateful to Luke Hyde, for his early mentorship and support; to Phoebe Ellsworth, who inspires me as the archetype of a social psychologist and teacher, and to Allison Earl, for her genuine support and always-sharp questions. Thanks, also, to Brian Vickers for his statistical prowess and patience. Thank you to Jonathan Martindale and my research assistants, whose dedication and intellect were instrumental to many projects. To the Emotion and Self-Control Lab and the SPRIG Lab, I am grateful to have learned alongside you, and have greatly benefited from your feedback. To wise students who came before: Peter Felsman, Neil Lewis, Josh Wondra—thank you for your friendship and guidance. I am also immensely grateful to my cohort, Veronica Derricks, Izzy Gainsburg and Meg Seymour, for their warmth, support and laughter over the years.

Thank you to Angela Duckworth for giving me my first ever research position, and for seeing in me the potential to pursue this path. How lucky that I've been able to continue to work with you on the Toolbox Project. To the entire Toolbox team and the teachers we have partnered with: I am grateful to be working with you on such a meaningful project.

To my advisors, thank you to Dr. Denise Sekaquaptewa, who has given me the autonomy to pursue research examining the implications of stereotypes for women's sense of identity, attitudes and behavior. Thank you for your continued support, generosity of time and resources, and questions that force me to sharpen my thinking. To Dr. Ozlem Ayduk, thank you for challenging me to become a clearer, more skilled writer, particularly when it comes to presenting results. To Dr. Susan Gelman, you inspire me with your humility, kindness and creative, scientific thinking. Thank you for your mentorship over the past several years, and for helping me to become a stronger writer, experimentalist, and thinker. To Dr. Ethan Kross, I owe much of my growth as a scientist to your steady mentorship over the past five years. Thank you for allowing me to be your apprentice (alas, not at Hogwarts). You have taught me the ins and outs of research—from turning the seed of an idea into an experimental design, to crafting compelling presentations, to writing succinctly (see, I had "clearly and succinctly" there, but chose one word). I deeply admire your constant excitement for 'the science.'

Thank you to my friends, near and far, who have reminded me continuously to make time for relationships, laughter and adventures. To Holly Shablack, Gina Bufton and Kaila Davis—I feel fortunate to have made such good friends so soon after moving to Ann Arbor. Thanks to Izzy Gainsbug, Briana Green, Mike Hall, Kate Naranjo, Sarah Huff, Steve Tompson, and Hakeem Jefferson for many hours of conversation at the Grotto, movie nights, and hangs at Belmar Place. To the WAGS and their counterparts, for welcoming me into your Michigan family. And to my friends who have watched me grow up: Maddy Kaufman, Nellie Laskow, Ally Boffa-Taylor, Bridget Naughton, Josie Aguila, Helen Werbe and Christina Patterson—thank you for always supporting me. To Christina, our morning chats were sustaining; thank you for being a constant sounding board.

I have also been particularly lucky to have gained a family while in Michigan. To the Zemans, Jones and Wolfes—especially Marci and Paul Zeman, Carli, Ben and Logan Jones, and Lizzy and Josh Zeman: thank you for treating me like family from the first day that I met you. You have given me a true home here, providing nourishment and love when it has been most needed.

To my parents, Miles Orvell and Gabriella Ibieta, I am grateful for your unwavering patience, support and love. Thank you for encouraging me to pursue my goals—even when that meant moving far away, and for believing in my ability to reach them. To my mom, thank you for trusting my judgment, but always offering yours when I need it. To my dad, thank you for modeling an inspiring, unparalleled work ethic. To my brother, Dylan, though at first blush our professions are as different as night and day, I think they both require tenacity, creativity, and comfort with uncertainty. I look to you when I am challenged in those areas, because you are the strongest exemplar I know of someone who doggedly pursues their dreams.

To Jeffrey, you have grounded me. In the process, you've become a budding social psychologist—able to name-drop the 'Dunning-Kruger effect' in conversation and generating testable hypotheses that I stumble across in journal articles. Thank you for challenging me intellectually. I write and think differently because of you. Thank you for the big things: your patience, empathy, reassurance and love. Thank you for the littler things, like offering your voice—high and low—and your likeness (see Figure 1) as stimuli. And thank you for everything in between: for talking through ideas with me, listening to my practice talks, unexpectedly showing up at my poster sessions, and for proofreading my emails (albeit rarely and begrudgingly). Above all, thank you for being my biggest supporter.

TABLE OF CONTENTS

LIST OF TABLES

TABLE

LIST OF FIGURES

FIGURE

LIST OF APPENDICES

ABSTRACT

This dissertation examines how subtle shifts in language can affect how people construct meaning from their experiences. I present evidence from eight experiments (N's range from 49 - 193) that focus on two related, but distinct, linguistic mechanisms that allow individuals to adopt a broader, more distanced perspective: distanced self-talk (i.e., using one's own name or second or third person pronouns to refer to the self; e.g., "Ariana, you can do this") and generic-you (i.e., 'you' that refers to people in general; e.g., "What doesn't kill you makes you stronger"). Chapter 1 provides a brief review of the existing literature on distanced self-talk and generic-you, highlighting their functionality for promoting psychological distance and emotion regulation. Chapter 2 consists of two experiments illustrating that distanced self-talk promotes emotion regulation when people reflect on intense, personal experiences, and among individuals who score high on trait-like measures of anxiety, brooding and depressive symptoms. The third chapter presents one study demonstrating that young children spontaneously use generic-you to express generalizations about negative experiences, suggesting that this may be a foundational meaning-making mechanism. Chapter 4 examines whether generic-you is functional for the addressee, focusing on how it operates in normative contexts. I present five experiments demonstrating that people endorse unfamiliar behaviors as more normative when they are expressed with generic-you (vs. I). This effect persists even when participants are told that the individuals providing the information are highly knowledgeable, and information expressed with "I" should be equally valid. In the final chapter, I propose that both of the linguistic shifts

reviewed in the previously mentioned chapters may operate relatively effortlessly, which has implications regarding when and for whom linguistic routes to emotion regulation may be adaptive. Specifically, it suggests that distanced self-talk and generic-you should be effective even when individuals are experiencing high levels of distress, and among populations whose cognitive control capacities are less efficient (i.e., those with depression or anxiety) or still developing (i.e., children).

CHAPTER I

How Linguistic Shifts Promote Psychological Distance

"Grief had made him novel, and he called himself 'you.'"

–V. S. Pritchett, A Trip to the Seaside in *A Careless Widow and Other Stories*

In the summer of 2012, 14-year-old Malala Yousafzai learned arguably the most frightening news that any teenager could receive: The Taliban had vowed to assassinate her in response to her outspoken advocacy against their efforts to restrict girls' access to education. When asked how she responded to news of the terrorists' plot, Malala said, "I asked myself, 'what would **you** do **Malala**? **Malala**, just take a shoe and hit him.'" She went on, "'But if **you** hit a Talib with **your** shoe, then there will be no difference between **you** and the Talib'" (Stewart, 2013). She talked to herself using 'you' and her own name.

Several months later, Malala's fears were realized: she was shot in the head while riding the bus to school. Malala survived, but the injury caused nerve damage, making it difficult for her to smile. Reassuring her mother that it did not matter, Malala again used 'you,' but not to address herself as she did in the quote above, or to refer to a specific person. Instead, she extrapolated from her own experience, using 'you' to refer to people in general: "When **you** see death, things change" (Yousafzai & Lamb, 2013).

Both of these examples highlight the unexpected ways that people use their own name

and non-first-person pronouns to reflect on their own deeply personal negative experiences. Here, I propose that these linguistic shifts serve the same overarching function: they promote psychological distance, which facilitates emotion regulation in a variety of contexts (e.g., Bernstein et al., 2015; Finkel, Slotter, Luchies, Walton, & Gross, 2013; Fujita, Trope, Liberman, & Levin-Sagi, 2006; Gross, 1998; Kross & Ayduk, 2017; White & Carlson, 2016).

One of the most distinctive properties of human language is that it requires people to take a stance on any given experience (Slobin, 1996). Language does not permit a speaker to represent the full complexity of a moment. Rather, it requires boiling down a richness of percepts, thoughts and emotions into a mere handful of words—hence the idiom, "a picture is worth a thousand words." With language, a speaker is forced to be selective, making choices regarding vocabulary, syntax and perspective within milliseconds (Traxler & Gernsbacher, 2011). For example, a person onstage in front of an audience could say either, "I looked out at the crowd" or "The crowd looked at me." Both sentences express a person's experience of the same event, but convey dramatically different ways of thinking, feeling, and behaving in the moment.

In line with this idea, I propose that two linguistic mechanisms—***distanced self-talk*** and ***generic you***—can alter a person's perspective in ways that promote psychological distance. ***Distanced self-talk*** involves taking an outsider's perspective by using one's own name and non-first-person pronouns (e.g., you, she) to address the self. As illustrated above, for example, Malala says to herself, "***Malala,*** just take a shoe and hit him." Given that first-person pronouns are commonly used to refer to the self, whereas names and non-first-person pronouns are habitually used to refer to others, reflecting on the self using language typically reserved for

others should promote emotion regulation by allowing people to reflect on their experiences from a distance (Kross et al., 2014).

While distanced self-talk involves reflecting on the self from an outside perspective, ***generic-you*** involves broadening one's perspective to refer to people in general (similar to how one might use 'people' or 'one'). Prior work demonstrates that generic noun statements (e.g., "Cats chase mice") express generalizations that apply broadly, beyond any specific time or place (Gelman, Ware, & Kleinberg, 2010; Rhodes, Leslie, & Tworek, 2012). Similarly, using generic-you to reflect on one's own negative experiences allows a person to craft a generalization, but in this case, one that is deeply self-relevant. For example, consider Malala's use of the word 'you' as she reflects on her own near-death experience, "When **you** see death, things change." We suggest that viewing one's experience in this way, as part of a broader phenomenon that is not restricted to the self, should likewise facilitate emotion regulation by promoting psychological distance (Orvell, Kross, & Gelman, 2017).

Figure 1 provides a graphical illustration of these linguistic mechanisms compared to the default mode of reflecting on the self from an immersed perspective, using 'I'.

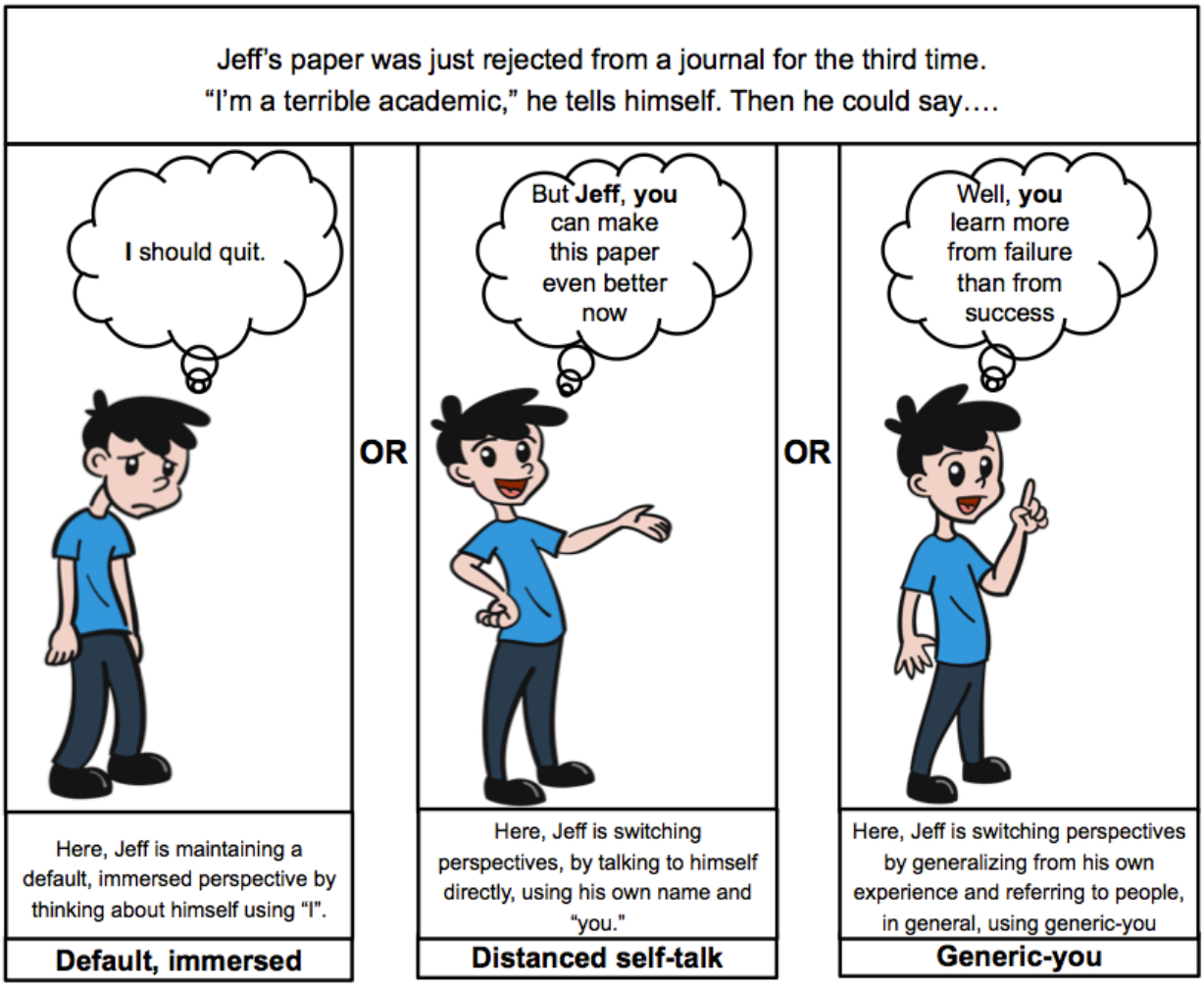

Figure 1. Figure 1 describes three perspectives individuals can take when reflecting on the self. The distinction between distanced self-talk statements in the 2nd person and generic-you statements in the 2nd person primarily lies in whom the referent is. For 2nd person distanced self-talk, the target of speech is the self; for self-relevant generic-you statements, the target of speech is people in general. Generic-you statements are further characterized by "you" accompanied by a verb in the present tense, which is not marked by a temporal aspect.

Experimental research indicates that reflecting on negative personal events using distanced (vs. immersed) self-talk leads people to consider their experiences akin to the perspective of an outside observer (Kross et al., 2014) and promotes emotion regulation in a variety of contexts (Dolcos & Albarracin, 2014; Kross et al., 2014; Kross & Ayduk, 2017; Leitner et al., 2017). When preparing for an anxiety-eliciting speech task, for example,

individuals who were cued to use distanced self-talk were more likely to view the upcoming speech as a challenge that they could cope with rather than as a threat over which they had no control (Kross et al., 2014; Streamer, Seery, Kondrak, Lamarche, & Saltsman, 2017). They also reported lower levels of anxiety (Kross et al., 2014) and reduced physiological reactivity (Streamer et al., 2017).

Generic-you likewise promotes psychological distance, helping people make meaning from negative experiences (Orvell et al., 2017). Experimental evidence demonstrates that increased usage of generic-you leads people to perceive a negative event as farther away from the self in time and space (Orvell et al., 2017). This increased psychological distance is associated with reductions in emotional reactivity and higher levels of reconstrual (i.e., thinking about the event differently) when people try to make meaning from negative experiences (Orvell et al., 2017).

Individual difference research indicates that people also *spontaneously* draw on both of these linguistic mechanisms when placed in situations where they need to control their thoughts, feelings, or behaviors (Orvell et al., 2017; Zell, Warriner, & Albarracin, 2012). For example, people use 'you' to address the self (i.e., distanced self-talk) when working through hypothetical situations that require self-control (Zell et al., 2012) and people are nearly five times more likely to spontaneously use generic-you when prompted to make meaning from, as opposed to relive, negative experiences (Orvell et al., 2017). These studies demonstrate that people shift from their default, immersed perspective to a more distanced one intuitively in situations that involve emotion regulation.

Both of these linguistic mechanisms are also available to young children, highlighting how potentially fundamental the capacity to switch from an immersed to a distanced perspective

through language is. For example, instructing four- and five-year-olds to use distanced self-talk increases their performance during an executive function task and their persistence during a boring work task (White et al., 2017; White & Carlson, 2016). Children as young as five years of age also spontaneously use generic-you when instructed to make meaning from (vs. relive) negative hypothetical events, demonstrating that they are able to generalize from negative experiences by understanding them as representative of broader phenomena (Orvell, Kross, & Gelman, 2018).

In sum, distanced self-talk and generic-you provide adults and children with a way to shift from an immersed to a more distanced perspective through the words they use to reflect on the self. In this way, both of these linguistic shifts serve as *levers* that promote emotion regulation by enhancing psychological distance. At the same time, because these linguistic mechanisms are readily observable, they also function as *windows*, providing insight into when people are regulating their emotions. In this vein, these mechanisms add to a growing body of research on other linguistic indices of distance that provide insight into emotion regulation processes (e.g., Al-Mosaiwi & Johnstone, 2018; Doré, Morris, Burr, Picard, & Ochsner, 2017; Nook et al., 2017; Pennebaker & Chung, 2007; Tackman et al., 2018).

Dissertation Overview

In the subsequent chapters of this dissertation, I present three empirical papers to elaborate on how these linguistic shifts function both as levers, that affect how people think and feel, and as windows, that provide insight into how individuals are construing a particular situation. An additional, overarching theme of this dissertation is that these linguistic shifts function relatively effortlessly. As will be discussed in Chapter 5, this has implications regarding when, and for whom, linguistic routes to emotion regulation may be beneficial.

Accordingly, Chapter 2 tests whether distanced self-talk functions as a lever that promotes emotion regulation for highly intense, negative experiences. This is noteworthy because converging evidence suggests many commonly studied reappraisal strategies are less effective under high intensity conditions, which tax the same cognitive control resources needed to implement such strategies effectively (Buhle et al., 2014; Raio, Orederu, Palazzolo, Shurick, & Phelps, 2013; Shafir, Schwartz, Blechert, & Sheppes, 2015; Sheppes, Scheibe, et al., 2014). I present results from two high-powered experiments demonstrating that distanced self-talk reduced negative emotional reactivity as individuals reflected on a range of intensely negative experiences. Further, these findings generalized to individuals characterized by emotional vulnerability. This paper is currently under review (Orvell, Vickers, Drake, Verduyn, Ayduk, Moser, Jonides, & Kross, under review).

Chapter 3 takes a developmental approach, by examining whether young children use generic-you to make meaning. It presents one experiment illustrating that young children (between the ages of 4-10 years of age) spontaneously use generic-you to express generalizations about negative events. These findings provide a window into children's meaning-making process. They further suggest that generic-you may function as an intuitive and foundational meaning-making mechanism. This paper is published in the *Journal of Experimental Psychology: General* (Orvell, Kross, & Gelman, 2018).

In Chapter 4, I begin to examine how these linguistic shifts operate interpersonally, and whether they may also be functional for how the *addressee* constructs meaning. I present five experiments demonstrating that generic-you (vs. 'I'), carries persuasive force, leading people to endorse unfamiliar behaviors as more normatively correct. I show that these effects persist even when information expressed with 'I' should be interpreted as equally valid, providing suggestive

evidence that this linguistic mechanism may operate at a more automatic, implicit level. This paper is under revision (Orvell, Kross, & Gelman, under revision).

Finally, in Chapter 5, I propose an integrative framework for understanding how these linguistic shifts may operate relatively effortlessly, and discuss the implications of this for emotion regulation. Of note, Chapters I and V are largely comprised of an article that is currently under review (Orvell, Ayduk, Moser, Gelman, & Kross, under review).

CHAPTER II:

Re-examining Reappraisal: Distanced Self-Talk Facilitates Emotion Regulation Under High Intensity Conditions

An extensive amount of research has examined the emotion regulatory benefits of changing the way one thinks to change the way one feels, a process that is often referred to as *reappraisal*. A core insight that has emerged from this work is that commonly studied reappraisal strategies involve upregulating activity in brain networks that support cognitive control, which in turn downregulate activity in brain networks that support self-referential and emotional evaluative functions (Buhle et al., 2014; Gross, 2015; Ochsner, Silvers, & Buhle, 2012). These findings illuminate the psychological and neural processes that underlie reappraisal. However, they pose a paradox from both a basic science and a translational perspective, as it is well established that intense stress taxes same cognitive control resources that underlie the implementation of many commonly studied reappraisal strategies (Arnsten, 2009; Buhle et al., 2014). This suggests that attempts at reappraisal may fail precisely when it is most needed: under high intensity conditions.

Supporting this idea, several studies indicate that reappraisal is less effective among individuals characterized by depression and anxiety, who are prone to experiencing high levels of emotional distress (Campbell-Sills et al., 2011; Erk et al., 2010; Johnstone, van Reekum, Urry, Kalin, & Davidson, 2007; Moser, Hartwig, Moran, Jendrusina, & Kross, 2014). Further,

behavioral studies indicate that under high intensity conditions, reappraisal is inferior compared to less effortful emotion regulation strategies, and in some cases breaks down entirely, leading one group of researchers to conclude that "cognitive emotion regulation fails the stress test" (Raio et al., 2013; Shafir et al., 2015; Sheppes, Scheibe, et al., 2014; Sheppes, Brady, & Samson, 2014; c.f., Silvers, Weber, Wager, & Ochsner, 2015). These findings beg the question: are there less effortful ways of successfully reappraising intense emotional experiences?

Here we suggest that one answer to this question may lie in the structure of language, and more specifically, in people's ability to reflect on the self using their own name and second- or third-person singular pronouns (e.g., *"**Jeff**, why are **you** feeling this way?"*), instead of first-person singular pronouns (e.g., "*Why am **I** feeling this way?"*) —a process we refer to as *Distanced Self-Talk* (Kross et al., 2014; Kross & Ayduk, 2017). As Figure 2 illustrates, Distanced Self-Talk promotes psychological distance, which allows people to reappraise stressful situations in ways that diminish their emotional impact. In one experiment, for example, Distanced Self-Talk led participants who were particularly worried about a recent Ebola outbreak to draw on more fact-based reasons not to worry, which in turn lowered their levels of anxiety and risk perception surrounding the disease (Kross et al., 2017).

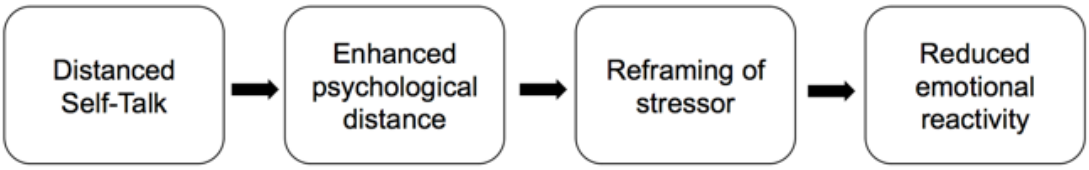

Figure 2. Schematic representation of how Distanced Self-Talk promotes emotion regulation. Note that the nature of the reframing will depend on the context of the stressor.

Crucially, cognitive neuroscience research indicates that cueing people to reflect on emotionally arousing stimuli using Distanced (vs. Immersed) Self-Talk predicts reductions in ERP and fMRI markers of self-referential emotional reactivity (i.e., the late positive potential

and a region of the medial prefrontal cortex, respectively; Moser et al., 2017) *without* predicting enhanced activity in neural markers of cognitive control (i.e., the stimulus preceding negativity and the fronto-parietal cognitive control network, respectively; Leitner et al., 2017; Moser et al., 2017). Dovetailing with these findings are behavioral studies demonstrating that Distanced Self-Talk benefits children who score low on individual difference measures of cognitive control (Grenell et al., in press) and highly anxious adults (Kross et al., 2014)—populations for whom the effortful control capabilities that underlie successful cognitive reappraisal are less efficient (Campbell-Sills et al., 2011; Erk et al., 2010; Johnstone et al., 2007). Together, these findings suggest that Distanced Self-Talk facilitates emotion regulation without relying excessively on cognitive control networks.

One explanation for why Distanced Self-Talk may facilitate emotion regulation relatively effortlessly lies in English speaker's habitual usage of pronouns, and more specifically, "shifters." (Jakobson, 1957). Shifters are words whose meaning changes depending on context. For example, consider a friend asking another friend how they are doing, "How are you?" says the first. "Not bad, how are you?" responds the second. "You" has shifted meaning here, referring to each of the two friends in turn. The usage of shifters demands that people flexibly shift perspectives, a process that occurs within milliseconds (Filik, Sanford, & Leuthold, 2008). Another, related explanation lies in people's habitual usage of names and non first-person pronouns to refer to *others*, and their usage of first-person singular pronouns to refer almost exclusively to the self. Given this tight coupling, using one's own name to reflect on the self should lead individuals to reason about the self from a more distanced perspective (Kross et al., 2014).

Taken together, this suggests that using non-first person pronouns and names to reflect on the self may initiate a quick, relatively effortless change in perspective that promotes emotion regulation under high intensity conditions. Indeed, ERP research indicates that Distanced Self-Talk leads to reductions in emotional reactivity within one second of viewing an emotionally arousing stimulus (Moser et al., 2017). However, whether Distanced Self-Talk promotes emotion regulation under high intensity conditions has not been systematically examined.

We addressed this issue by cueing participants to reflect on a series of negative autobiographical experiences that varied in their emotional intensity using Distanced- and Immersed Self-Talk (see Figure 3). In Experiment 1, participants reflected on future negative events that elicited feelings of worry. In Experiment 2, participants reflected on negative events that occurred in the past. Experiment 2 additionally examined whether individuals characterized by emotional vulnerability (i.e., a tendency to ruminate, worry, and experience depressive symptoms) benefited from using Distanced Self-Talk to reflect on emotionally intense experiences. By using this within-subjects, repeated-measures approach, we sought to maximize statistical power for detecting interactions between emotional intensity and the type of self-talk in which people engaged.

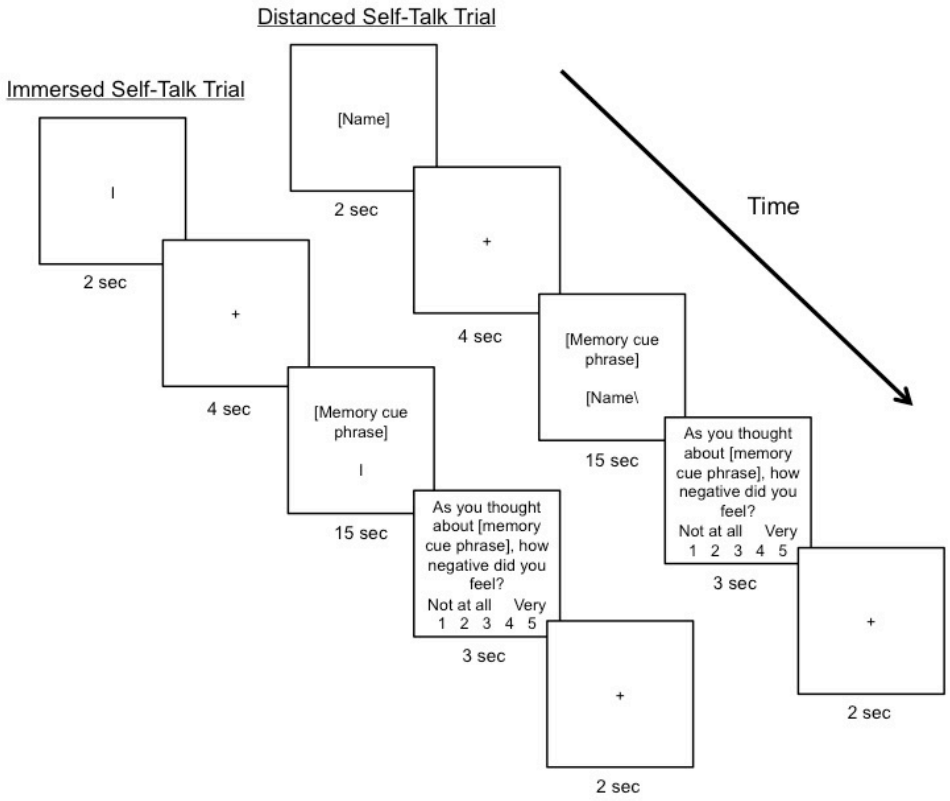

Figure 3. Self-talk task trial structure and timing. Self-talk trials consisted of eight blocks, each focusing on a separate negative autobiographical experience. Within each block, participants reflected on their experience using Immersed Self-Talk and Distanced Self-Talk four times each for a total of 64 trials across eight blocks. Blocks and type of Self-Talk within each block were randomized. Participants first saw a cue showing the type of Self-talk ("Name" was replaced with the participant's actual name), followed by a short fixation cross. They then reflected on their experience for 15 seconds using the assigned type of self-talk and subsequently rated how negatively they felt from "Not at all" to "Very" using a five-point scale (M = 3.06, SD = 1.17). If participants did not generate a response within the allotted 3-second window, their trial data were coded as containing a missing response.

Experiment 1: Reflecting on Negative Future Experiences

Method

Participants. Participants were 50 native English speakers (M_{age} = 18.66 years, SD_{age} = 0.82; 29 females) recruited from the subject pool at a large University. The sample was 82%

White, 12% Asian, 2% Black, 2% Native American, and 2% multi-racial. All participants provided informed consent and were compensated with course credit.

To determine our sample size, we conducted a power analysis using results from a published paper that used a similar within-subjects paradigm. We observed a large effect size for the main effect of self-talk, Cohen's $d = 1.01$ (Moser et al., 2017) and power analyses indicated that 15 participants were needed to replicate this effect with 95% power. Given that we did not have effect sizes for the moderating role of how intense the experience participants reflected on was, we performed power analyses assuming a small to medium effect size to be conservative, $d = .20$ (Maxwell & Delaney, 2004). This suggested running approximately 53 subjects in a within-subjects, repeated-measures design.

Task 1: Memory Harvesting. Participants were prompted to briefly describe in writing eight negative emotional events that they worried about, but which had not yet occurred. After describing each event, participants created a short cue phrase (e.g., "Mom's health"). They were then prompted to think about each experience for 30 seconds, rate the negative emotional intensity of the event using a 1 ("Not at all") to 9 ("Extremely") scale, $M = 5.62$, $SD = 2.19$, and rate how frequently they thought about each experience using a 1 ("Never") to 9 ("All the time") scale, $M = 6.05$, $SD = 2.09$. In between each event, participants completed a short filler task to prevent emotional spillover. Participants then disclosed their demographic data.

Task 2: Self-Talk Task. Next, participants repeatedly reflected on the experiences generated during Task 1 using Immersed- and Distanced Self-Talk (see Figure 2). Prior to the self-talk task, an experimenter walked participants through a short training session, which included a sample trial and two practice trials. Appendix A contains the script used during training.

Funneled debriefing. Last, participants completed a funneled debriefing to probe their knowledge about the study's design and hypotheses. Five participants articulated some knowledge of the hypotheses connecting self-talk and negative affect in the expected direction. However, analyses performed without these participants did not alter any of the conclusions we report.

Type of experience coding. After data collection, two judges identified eight types of experiences that participants tended to worry about: those related to (1) interpersonal issues, (2) achievement, (3) financial issues, (4) health, (5) events related to the future, (6) appearance and self-worth, and (7) morality and religion. Next, the same two judges categorized each experience into one of the above categories (κ=.89). Discrepancies were resolved by a third, independent coder.[1] One category (morality and religion) did not surpass the required number of 15 participants noted in the power analysis for the main effect of self-talk: seven participants generated eight events. Thus, we excluded memories from this category in the Robustness analyses, reported below.

Results

Overview of Primary Analyses. Because our variables included trial-level (i.e., type of self-talk) and block-level (discrete experiences generated during Task 1) data, we ran multi-level models using R's lme4 package (Bates, Maechler, Bolker, & Walker, 2015). Type of Self-talk was entered as a fixed effect; Block and Participant were entered as random effects, with Block nested within participant. Initial tests confirmed that allowing for random slopes at the

[1] The event types for two participants were coded by a separate set of coders because they had been overlooked during initial coding. Reliability between coders for these two participants was acceptable, κ = .62

Participant and Block level significantly improved the model fit (Bates, Kliegl, Vasishth, & Baayen, 2015).

Emotion regulation. As predicted, Distanced (vs. Immersed) Self-Talk led to declines in negative emotional reactivity, b = 0.46, $p < .001$. Participants also reported higher emotional reactivity when reflecting on more intense future experiences, b = 0.26, $p < .001$. Critically, Distanced (vs. Immersed) Self-Talk led participants to experience lower levels of emotional reactivity, regardless of the intensity of the experience they reflected on, Type of Self-Talk X Event Intensity: b = .01, $p = .541$ (see Table 1 and Figure 3).

Table 1

Models testing whether the benefits of Distanced Self-Talk persist for highly intense future (Experiment 1) and past (Experiment 2) experiences

Fixed Effects	b	se	df	t	*p*	95% CI
Study 1						
Type of Self-Talk	0.46	0.07	50	6.24	<.001	.32, .61
Event Intensity	0.26	0.02	392	14.51	<.001	. 22, .30
Type of Self-Talk X Event Intensity	0.01	0.02	384	0.61	.541	-.02, .05
Study 2						
Type of Self-Talk	0.62	0.08	48	7.97	<.001	. 46, .77
Event Intensity	0.29	0.04	376	7.44	<.001	.21, .37
Type of Self-Talk X Event Intensity	0.02	0.04	369	0.51	.610	-.06, .10

Note. Models test the fixed effects of Type of Self-Talk (Distanced = -.5, Immersed = .5), Event Intensity, and the interaction between the two for Studies 1-2. Models include random intercepts and slopes at the Participant and Block level. Satterthwaite approximations were used to determine effective denominator degrees of freedom, and were rounded to the nearest whole number.

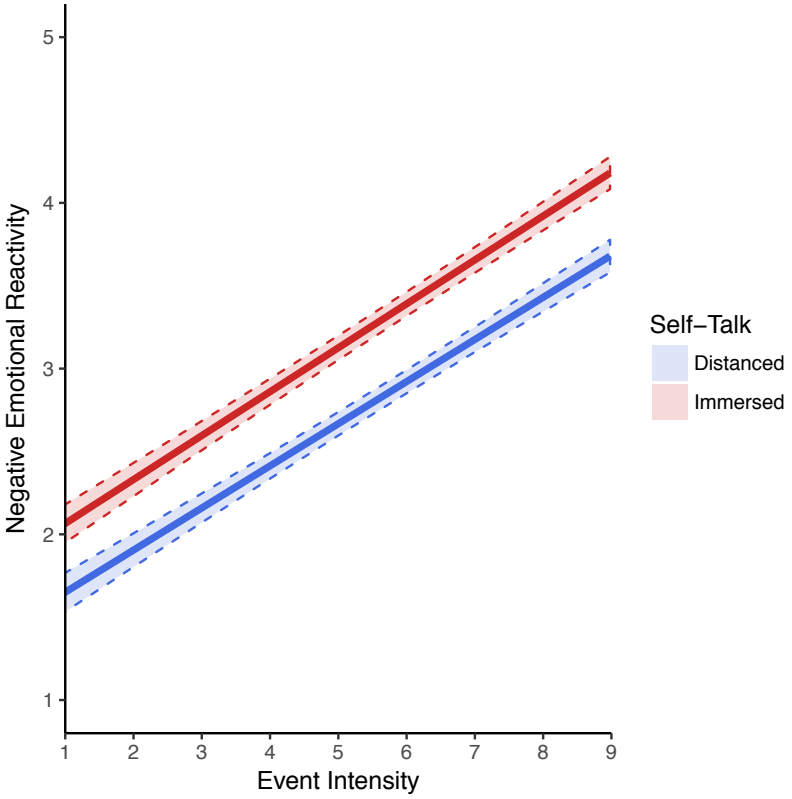

Figure 4. Graph illustrating that the benefits of Distanced Self-Talk persist as the emotional intensity of the negative event participants reflected on increased. Solid lines show predicted average emotional reactivity; shaded areas between the dashed and solid lines represent ± 1 standard error of the mean.

Robustness analyses. Distanced (vs. Immersed) Self-Talk did not function differently depending on the type of negative experience that participants reflected on, Type of Self-Talk X Event Type omnibus chi-square test, $\chi^2(5) = 2.79$, $p = .733$. As Figure 4 illustrates, follow-up pairwise comparisons using Tukey's Honestly Significant Difference correction indicated that Distanced (vs. Immersed) Self-talk led to significant declines in negative emotional reactivity for each type of experience (ts $\geq |3.35|$, ps $< .001$), except those relating to appearance and self-worth ($t = |1.66|$, $p = .098$).[2]

[2] Controlling for Event Intensity in this model revealed a similar pattern of results.

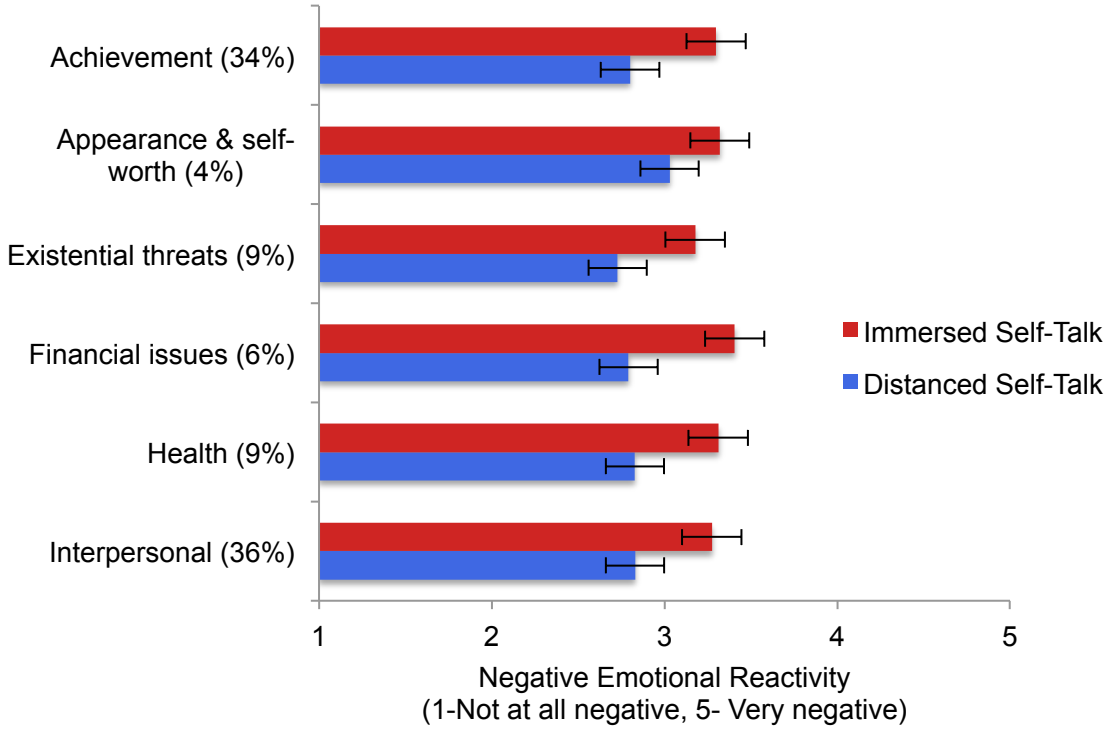

Figure 5. Bar graph illustrating how Immersed and Distanced Self-Talk influence negative emotional reactivity when reasoning about different types of emotional experiences generated in Experiment 1. The y-axis presents (a) each type of experience and (b) the percentage of experiences in each category. Error bars represent ± 1 standard error of the mean.[3]

Experiment 2: Reflecting on Past Negative Experiences

Experiment 2 examined whether the findings from Experiment 1 generalized to another common emotion regulation context: reflecting on past negative experiences. Experiment 2 additionally explored the efficacy of Distanced Self-Talk for individuals with high trait-like levels of emotional vulnerability. Prior research provides mixed findings regarding whether such individuals benefit *more* from Distanced Self-Talk compared to their less vulnerable

[3] Note that percentages add to 98% because we excluded the 'morality and religion' category from this analysis because the number of memories did not meet the minimum threshold identified by our *a priori* power analysis to detect an effect of Distanced vs. Immersed Self-Talk. See Method section for additional details.

counterparts, or whether Distanced Self-Talk is equally beneficial regardless of individuals' propensity to experience emotional distress (Kross et al., 2014; Kross et al., 2017). By utilizing a within-subjects design, we sought to maximize statistical power and adjudicate between these divergent findings.

This study consisted of a secondary analysis of the behavioral data reported in Study 2 of Moser et al. (2017), which used a paradigm similar to the one described in Experiment 1 to examine the neural correlates of reflecting on negative past experiences using Immersed and Distanced Self-Talk (Moser et al., 2017). However, Moser and colleagues (2017) did not examine two key questions we focus on here: whether 1) event intensity and 2) individual differences in emotional vulnerability influence the effectiveness of Distanced Self-Talk for reducing negative affect. Moser and colleagues (2017) also did not systematically examine whether the benefits of Distanced Self-Talk generalized across the range of negative experiences that participants reflected on. There were several other exploratory variables collected as a part of the original study, which are not reported here.

Method

The design of Experiment 2 was nearly identical to Experiment 1.

Participants. Forty-nine native English speakers (M_{age} = 20.27 years, SD_{age} = 2.72, 30 females) were recruited via flyers and advertisements posted online.[4] The sample was 67% White, 16% Asian, 8% Black, 2% Native American, and 4% who identified with a category not provided (i.e., 'other'). Data from two participants were excluded due to an inability to locate their baseline data. We also excluded one participant for whom we did not have behavioral rating data.

[4] Participants who reported two native languages, one of which was English, were included.

Procedures. The design of Experiment 2 was analogous to Experiment 1 with three exceptions. First, participants thought about negative events that occurred in the past. Second, during the memory-harvesting task, participants were randomly presented with 13 prompts asking them to recall specific types of negative experiences. The thirteen cues were then grouped into eleven discrete types of events. Participants rated each event's emotional intensity using a 1 ("Extremely negative") to 9 ("Extremely positive") scale; valence ratings were reverse-scored to be consistent with Experiment 1, so that higher numbers reflected higher event intensity (M = 7.94, SD = 0.97). To qualify for the study, participants needed to have eight memories that they rated below the original scale midpoint on valence. If participants qualified, they were invited back to perform the Self-Talk Task, which was held approximately 11 days later (M = 10.61, SD = 7.88).

Individual Difference Questionnaires. At the beginning of Session 1, participants filled out a battery of exploratory measures. Three of the questionnaires measured theoretically relevant individual differences in emotional vulnerability: the Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002; Kroenke, Spitzer, & Williams, 2001), M = 13.42, SD = 4.61, the Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990), M = 50.16, SD = 12.81, and the brooding subscale of the Ruminative Response Scale (RRS; Treynor, Gonzalez, & Nolen-Hoeksema, 2003), M = 1.93, SD = .59. Items from these measures loaded highly onto a single factor, McDonald's Omega H, ω = .53, α = .92 (Dunn, Baguley, & Brunsden, 2014; Peters, 2014). Thus, after z-scoring each scale, we averaged them to create a composite measure of individual differences in emotional vulnerability (see Supplemental Method and Results section for analyses examining each scale separately and additional exploratory measures).

Results

Emotion regulation. As indicated in Table 1, Distanced (vs. Immersed) Self-Talk led to significant declines in negative emotional reactivity, b = .62, $p <$ .001. Event Intensity again predicted increased negative emotional reactivity, b = .29, $p <$ .001. Critically, Distanced (vs. Immersed) Self-Talk led participants to experience less negative emotional reactivity, regardless of the emotional intensity of the past experience, Type of Self-talk X Event Intensity, b = .02, p = .610 (see Figure 6 Panel A).

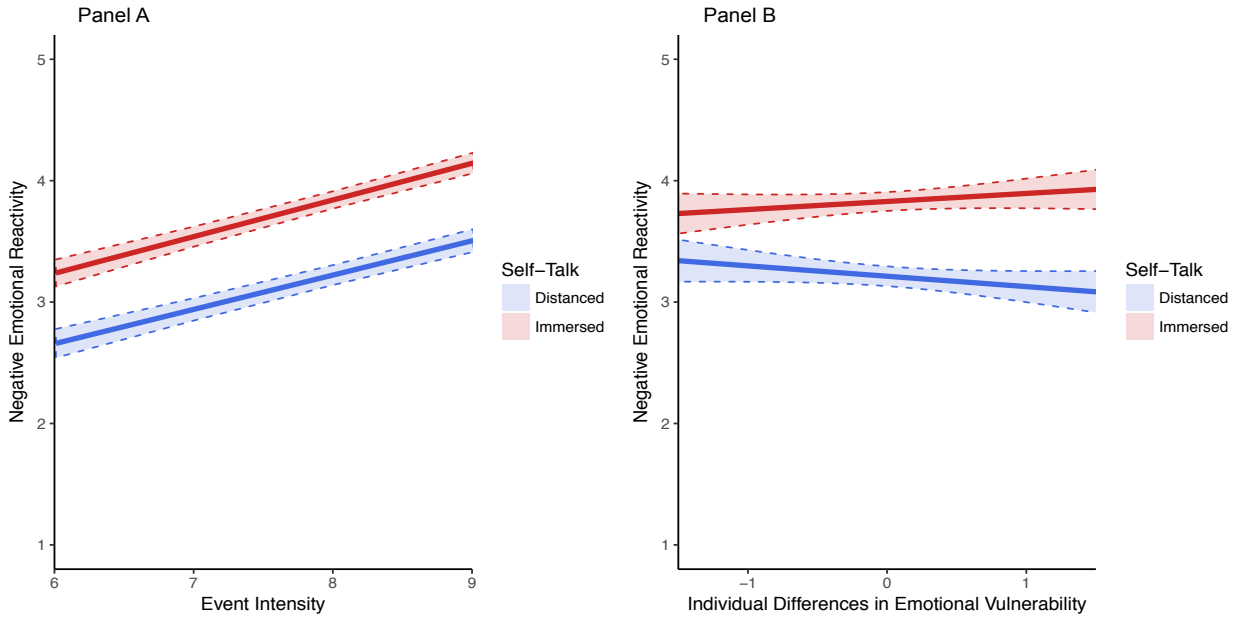

Figure 6. Graph depicting predicted negative emotional reactivity across levels of Event Intensity (Panel A) and individual differences emotional vulnerability (Panel B) by type of Self-talk in Experiment 2. Solid lines show the average ratings of negative emotional reactivity and shaded areas represent ± 1 standard error of the mean.

Individual differences in emotional vulnerability. Of central interest, the effectiveness of Distanced Self-Talk for reducing negative emotional reactivity did not vary depending on individual differences in emotional vulnerability, Type of Self-Talk X Emotional Vulnerability, b = .16, p = .094. As Figure 6 Panel B illustrates, Distanced (vs. Immersed) Self-Talk reduced

negative emotional reactivity, even as individuals' trait levels of emotional vulnerability increased (Table 2 reports all effects included in the model).

Table 2

Model testing whether the benefits of Distanced Self-Talk extend to individuals with high trait levels of emotional vulnerability

Fixed Effects	b	se	df	t	*p*	95% CI
Type of Self-Talk	0.62	0.08	48	8.15	<.001	.47, .78
Emotional Vulnerability	-0.05	0.08	50	-.57	.573	-.21, .12
Event Intensity	0.29	0.04	377	7.24	<.001	.21, .37
Type of Self-Talk X Emotional Vulnerability	0.16	0.10	49	1.71	.094	-.03, .35
Type of Self-Talk X Event Intensity	0.01	0.04	369	0.18	.854	-.07, .08
Event Intensity X Emotional Vulnerability	-0.05	0.05	378	-1.07	.288	-.16, .05
Type of Self-Talk X Emotional Vulnerability X Event Intensity	-0.08	0.06	374	-1.67	.096	-.18, .02

Note. Model tests the fixed effects of Type of Self-Talk (Distanced = -.5, Immersed = .5), Event Intensity, and individual differences in Emotional Vulnerability on negative affect. All interaction terms are included in the model. Model includes random intercepts and slopes at the Participant and Block level. Satterthwaite approximations were used to determine effective denominator degrees of freedom, and were rounded to the nearest whole number.

Robustness analyses. An omnibus chi-square test indicated that Distanced (vs. Immersed) Self-talk did not function differently depending on the type of negative experience that participants reflected on, Type of Self-Talk X Event Type: $\chi^2(10) = 12.92$, $p = .228$. Follow-up pairwise comparisons using Tukey's Honestly Significant Difference correction indicated that Distanced (vs. Immersed) Self-Talk led to significant reductions in negative emotional reactivity for all types of negative experiences, all ts $\geq |2.98|$, all ps $\leq .003$ (see Figure 7).[5]

[5] Controlling for Event Intensity in the model revealed a similar pattern of results.

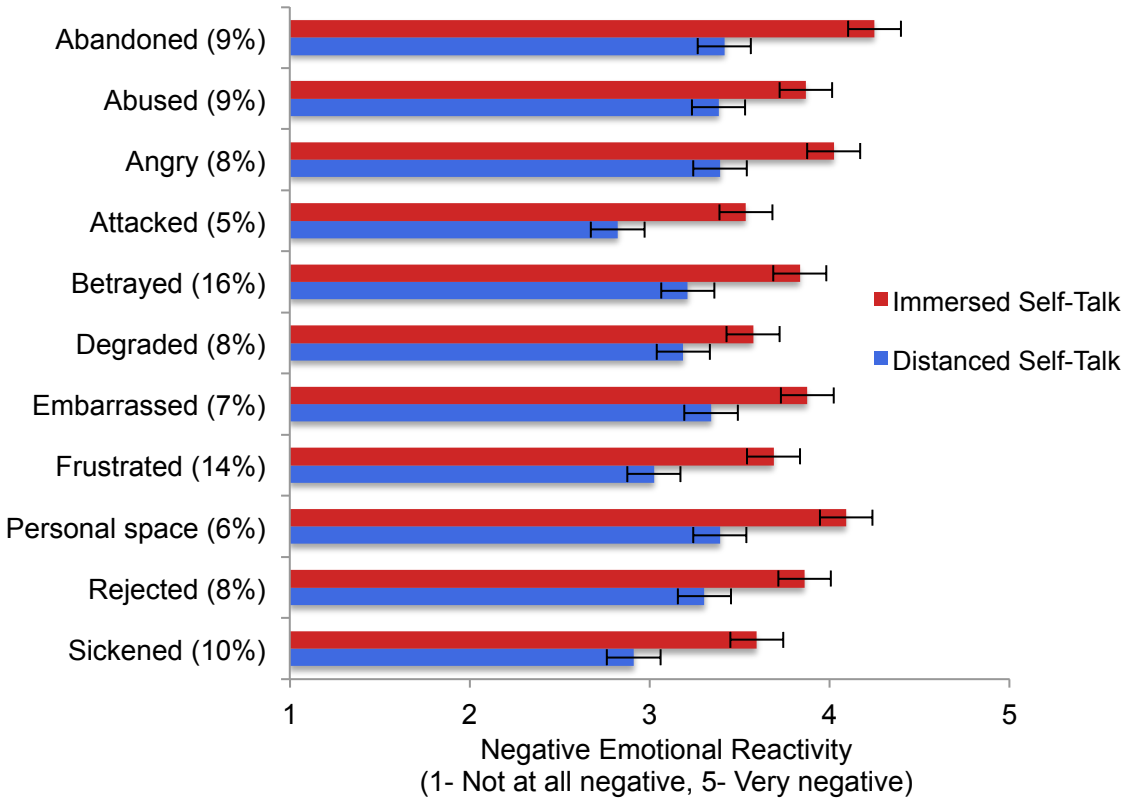

Figure 7. Bar graph illustrating how Immersed and Distanced Self-Talk influence negative emotional reactivity when reasoning about different types of negative emotional experiences generated in Experiment 2. The y-axis presents (a) each type of experience and (b) the percentage of experiences in each category. Error bars represent ± 1 standard error of the mean.

General Discussion

Converging research has begun to suggest that reappraisal is less effective under high intensity conditions (Ford & Troy, in press; Raio et al., 2013; Sheppes, Catran, & Meiran, 2009; Sheppes & Meiran, 2007). Indeed, many commonly studied reappraisal strategies rely on executive resources—which are taxed under high stress conditions—to implement (Buhle et al., 2014; Ochsner et al., 2012). However, people can reappraise negative experiences in a multitude of ways. Guided by this idea, we show that Distanced Self-Talk, a relatively effortless route to

reappraisal, leads to reductions in negative affect when people reflect on highly intense, negative autobiographical events.

This finding underscores the need for future research to examine when certain reappraisal strategies may be more or less effective than others. Much of the existing research on reappraisal has focused on a small subset of strategies, for example, adopting the perspective of a detached observer or reinterpreting a given stimulus (Arnsten, 2009; Buhle et al., 2014; Webb, Miles, & Sheeran, 2012). As a result, little is known regarding if, and when, certain individual differences or situational factors might make one reappraisal strategy better suited than another (Ford & Troy, in press; McRae, Ciesielski, & Gross, 2012; Shiota & Levenson, 2009, 2012). Our findings suggest that when the emotional intensity of a situation makes it difficult to adopt a cognitively cool perspective, implementing less effortful routes to reappraisal, such as distanced self-talk, may promote emotion regulation—while allowing for the adaptive processing of emotional content.

We also find that Distanced Self-Talk effectively down-regulates negative emotions elicited by a range of both future- and past-oriented stressors. This has translational implications, suggesting that Distanced Self-Talk could be implemented as an effective emotion regulation intervention across a variety of contexts. From a clinical perspective, the findings from Study 2 suggest that Distanced Self-Talk may provide a more feasible route to emotion regulation for emotionally distressed individuals compared to more cognitively taxing reappraisal strategies. Future research should begin to address these issues by examining whether these findings generalize to relevant clinical samples.

Supplemental Method and Results

Experiment 1

Method. Two judges read participants' descriptions of their memories and identified eight key types of experiences, which were defined with the following criteria: (1) Interpersonal: experiences involving romantic partners, friends, and family members; (2) Achievement: experiences involving succeeding in one's career, academics or life; (3) Financial: experiences involving student loans, finding a job, or losing scholarships; (4) Health: experiences dealing with one's physical or mental health and well-being; (5) Events related to the future: existential threats, such as experiences involving potential threats to one's mortality including car accidents, death, terrorism, global warming; (6) Appearance and self-worth: experiences involving body-image and self-worth related experiences; (7) Morality and religion: experiences involving moral dilemmas and those associated with being a "good person," including those that touched on religious and spiritual issues.

Table 3 provides the number of memories generated for each category, and the number of participants who generated a memory for a given event type.

Table 3

Distribution of memories for Experiment 1

Event Type	Number of memories	Number of participants
Appearance and self-worth	18	16
Financial	25	21
Future	34	25
Health	35	24
Morality and religion	8	7
Interpersonal	145	50
Achievement	135	50

Note. Table depicts the distribution of memories generated for Experiment 1. "Number of memories" describes the total number of memories for each event category. "Number of participants" describes the number of participants who contributed a memory to a given event type.

Results. ***Preliminary analyses.*** Preliminary analyses indicated missing responses were not systematically related to condition (Immersed Self-Talk $n = 101$ or 6.31% of responses; Distanced Self-Talk $n = 118$ or 7.38% of responses; $z = -1.75$, $p = .080$). Both time on task (block number over the course of the task) and time in block (trial number in block) were associated with lower negative affect ratings (ts > |1.76| *p*s < .08). However, Type of Self-Talk did not interact with either of these variables (*p*s > .67).

Does the effectiveness of Distanced Self-Talk depend on how frequently people think about the event? We examined whether type of self-talk used during the task interacted with how frequently participants reported thinking about the experience in their daily lives. The interaction between Type of Self-Talk and Thought Frequency was marginal, indicating that Distanced Self-Talk was marginally more effective for down-regulating negative emotional reactivity among individuals who spent more time thinking about the experience, b = .03, se = 0.02, $t(382) = 1.79$, $p = .075$, 95% CI [-.003, .067]. Both the main effect of Type of Self-Talk, b

= 0.46, se = 0.08, $t(50) = 6.12$, $p < .001$, 95% CI [.311, .613] and frequency of Thinking about the Event, b = 0.13, se = 0.02, $t(392) = 6.15$, $p < .001$, 95% CI [.090, .174] were also significant in the theoretically expected direction—first person self-talk and more frequent preoccupation were both positively associated with negative affect.

Experiment 2

Method. Table 4 provides the number of memories generated for each category, and the number of participants who generated a memory for a given event type.

Table 4

Distribution of memories for Experiment 2

Event Type	Number of memories	Number of participants
Abandoned	33	33
Abused	34	34
Angry	30	30
Attacked	20	20
Betrayed	59	41
Degraded	31	31
Embarrassed	28	28
Frustrated	54	38
Personal space	23	23
Rejected	31	31
Sickened	36	36

Note. Table 4 depicts the distribution of memories generated for Study 2. "Number of memories" describes the total number of memories for each event category. "Number of participants" describes the number of participants who contributed a memory to a given event type.

Results. ***Preliminary Analyses***. Preliminary analyses indicated that there was no difference in missing data between conditions (Immersed Self-Talk $n = 123$ or 8.11% of responses; Distanced Self-Talk $n = 109$ or 7.19% of responses; $z = -0.20$, $p = .842$). Time on task (i.e, Block) was associated with increased negative affect ratings (t = 1.97 $p = .049$). However, Type of Self-Talk did not interact with Block (t = -.61, $p = .952$). There was no effect of trial on

negative emotional reactivity, nor was there a significant Type of Self-Talk X Trial Interaction (all ts < |.96|, *ps* > .343).

Does the effectiveness of Distanced Self-Talk depend on how arousing the event is? In addition to reporting on how negatively they felt when they thought about each experience at Baseline (i.e., Task 1), participants also reported how intensely they viewed each event (1-Not intense to 7–Extremely Intense scale; *M* = 7.47, *SD* = 1.06). Because arousal does not capture valence (i.e., how positive or negative the experience was), and to be consistent with Study 1, we conducted our primary analyses with the measure that asked participants how negatively or positively they viewed the experience. Here, we report the analyses when the arousal measure is included as the moderator instead. There was a marginal main effect of arousal, b = .07, se = .04, *t*(374) = 1.76, *p* = .079, 95% CI [-.008, .139] indicating that higher arousal was associated with marginally higher negative emotional reactivity. Consistent with the findings reported in the main text, Distanced Self-Talk predicted reductions in negative emotional reactivity, b = .62, se = .08, *t*(48) = 7.92, *p* < .001, 95% CI [.463 .774] and there was no Type of Self-Talk X Event Arousal Interaction, b = .04, se = .03, *t*(358) = 1.06, *p* = .290, 95% CI [-.031, .102].

Does the effectiveness of Distanced Self-Talk depend on when the event occurred? Participants indicated when each experience they reflected on occurred (Less than a month ago: 18%, Between 1 and 6 months ago: 25%, Between 6 months and a year ago: 14%, Between 1-5 years ago: 30%, More than 5 years ago: 13%). This variable did not predict negative emotional reactivity, b = -.03, se = .03, *t*(424) = .94, *p* = .348, 95% CI [-.028, .080] or interact with Type of Self-Talk , b = -.02, se = .03, *t*(359) = -.81, *p* = .420, 95% CI [-.070, .029]. Controlling for this variable did not substantively alter the relationship between Type of Self-Talk and negative emotional reactivity, b = .62, se = .08, *t*(48) = 7.95, *p* < .001, 95% CI [.466, .779].

Individual Differences. In addition to the questionnaires mentioned in the manuscript, participants also filled out the reflection ($M = 1.92$, $SD = 0.70$) and depression ($M = 1.96$, $SD = 0.68$) subscales of the RRS, and the Emotion Regulation Questionnaire (Reappraise $M = 30.64$, $SD = 6.44$; Suppression $M = 15.51$, $SD = 4.97$) (Gross & John, 2003). Table 5 provides the results when each individual subscale is entered into the model as a moderator. To correct for multiple comparisons, we used a Bonferroni correction, giving us an effective $p < .007$ for significance.

Table 5

Moderation of Type of Self-Talk by Individual Difference Variables and Event Intensity

Individual Difference Moderator	Fixed Effects	b	se	df	t	*p*	Passes Bonferroni Corrected p-value
Patient Health Questionnaire (PHQ)	Intercept	3.52	0.06	48.46	55.13	< .001	*
	Type of Self-Talk	0.63	0.08	48.23	8.08	< .001	*
	PHQ	-0.09	0.07	53.30	-1.31	0.20	
	Event Intensity	0.29	0.04	377.04	7.41	< .001	*
	Type of Self-Talk X PHQ	0.10	0.08	51.82	1.28	0.21	
	Type of Self-Talk X Event Intensity	0.01	0.04	368.65	0.30	0.77	
	PHQ X Event Intensity	-0.05	0.04	383.17	-1.30	0.19	
	Type of Self-Talk X PHQ X Event Intensity	-0.07	0.04	385.90	-1.76	0.08	
Brooding Subscale of the Ruminative Response Scale (RRS)	Intercept	3.52	0.07	48.47	53.71	< .001	*
	Type of Self-Talk	0.62	0.08	47.83	7.96	< .001	*
	RRS Brooding	-0.04	0.07	48.53	-0.63	0.53	
	Event Intensity	0.29	0.04	375.78	7.24	< .001	*
	Type of Self-Talk X RRS Brooding	0.03	0.08	47.72	0.34	0.73	
	Type of Self-Talk X Event Intensity	0.01	0.04	366.10	0.23	0.82	
	RRS Brooding X Event Intensity	-0.04	0.04	374.76	-0.92	0.36	
	Type of Self-Talk X RRS Brooding X Event Intensity	-0.06	0.04	362.61	-1.65	0.10	
Penn State Worry Questionnaire (PSWQ)	Intercept	3.51	0.07	48.64	53.06	< .001	*
	Type of Self-Talk	0.61	0.07	47.93	8.40	< .001	*
	PSWQ	0.04	0.07	49.83	0.54	0.59	
	Event Intensity	0.29	0.04	376.35	7.36	< .001	*
	Type of Self-Talk X PSWQ	0.19	0.07	48.64	2.57	0.01	
	Type of Self-Talk X Event Intensity	0.01	0.04	372.21	0.39	0.70	
	PSWQ X Event Intensity	-0.01	0.04	374.56	-0.29	0.78	
	Type of Self-Talk X PSWQ X Event Intensity	-0.02	0.04	364.81	-0.63	0.53	

Note. Moderation of Type of Self-Talk by Individual Difference Variables and Event Intensity. Table reports the Type of Self-talk (Distanced vs. Immersed Self-Talk) X Individual Difference interaction for each of the individual subscales administered during Session 1 in Study 2. Model additionally includes Event Intensity as a predictor. To achieve statistical significance, p values need to surpass $p < .007$, the Bonferroni corrected p value, which adjusts for the number of statistical tests, i.e., 7. Tests that pass the Bonferroni corrected threshold are indicated with an *. PHQ = Patient Health Questionnaire, PSWQ = Penn State Worry Questionnaire, RRS = Ruminative Response Scale. ERQ = Emotion Regulation Questionnaire.

CHAPTER III

Lessons Learned: Young Children's Use of Generic-You to Make Meaning From Negative Experiences

From a young age, children must grapple with a range of negative experiences: they may fail to get what they want, endure social exclusion and conflict, witness injustices in the world around them, or suffer losses and disappointments both big and small. Learning from such events to inform future life experiences presents an essential challenge, but what psychological processes facilitate this capacity?

For adults, one route to making meaning from negative experiences involves moving beyond the concrete features of the situation to understand it within a broader, more abstract context (Davis, Nolen-Hoeksema, & Larson, 1998; Janoff-Bulman & McPherson Frantz, 1997; Orvell et al., 2017; Park, 2010; Park & Folkman, 1997). There are various ways to achieve this goal, but recent work has identified the generic usage of the word "you" as a linguistic mechanism that supports this process by allowing people to reconstrue an experience as part of a broader, more normative phenomenon (Orvell et al., 2017).

Do children similarly draw on generic-you to help them move beyond the here-and-now to express generalizable life lessons? We address this question in the current research by asking if children use generic-you as they attempt to make meaning from negative events.

How "you" makes meaning

The word "you" is typically thought of as a second-person pronoun that is used to refer to an individual or set of individuals (e.g., "That turkey you made was delicious"). However, "you" can also be used to refer to people in general (e.g., "On Thanksgiving Day, you eat turkey"). This usage, known as "generic-you," expresses generalizations that extend beyond a specific time or place (Bolinger, 1979; Kamio, 2001; Kitagawa & Lehrer, 1990; Laberge & Sankoff, 1979).

Recent research with adults indicates that generic-you is used to express norms—general expectations for how things are or should be—about both emotional and non-emotional experiences (Orvell et al., 2017). For example, when asked to consider rules regarding commonplace behaviors (e.g., "What do you do on a rainy day?"), people were more likely to respond using generic-you (e.g., "You bring an umbrella") than when they were asked to consider preferences, as indicated by responses including "I" (e.g., "I like to read on a rainy day"; Orvell et al., 2017). Adults also used generic-you to express norms when they were prompted to make sense of their negative experiences compared to when they were prompted to relive them (Orvell et al., 2017). For example, a person attempting to learn from a recent break-up concluded, "You have to accept that you cannot change people." Using generic-you in this way allows the individual to construct a generalizable lesson surrounding their experience that extends beyond the self, thus enhancing psychological distance and promoting meaning-making (Orvell et al., 2017).

Children as young as two years old are also sensitive to non-emotional contexts in which generic-you is appropriate (Orvell, Kross, & Gelman, 2018). Similar to adults, when asked about norms for behavior (e.g., "What *should* you do with crayons?"; italics added for emphasis) versus preferences (e.g., "What do you *like* to do with crayons?"; italics added for emphasis),

children between the ages of 2-10 were more likely to interpret normative questions as *general* by answering using "you" (e.g., "*You* color with crayons"). In contrast, when asked about preferences, children were more likely to interpret the question as specific by answering using "I" (e.g., "*I* like to color in my coloring book"). However, whether children also draw on generic-you in the context of negative events to express norms and make meaning is unknown.

Prior research provides mixed clues as to when in development we may expect children to recruit generic-you to make meaning from negative events. On the one hand, research suggests that executive function capabilities, which are often viewed as the building blocks of regulatory capacities, are still developing between the ages of 6-12 (Anderson, 2002; Hofmann, Schmeichel, & Baddeley, 2012). Relatedly, children's theory of mind—the understanding that people experience individual beliefs, emotions, and perspectives—is also still developing during this period (see Lagattuta et al., 2015 for review). For example, in one study that tested how emotional comprehension develops by asking children about a hypothetical vignette, most children were able to infer the emotional states of the characters based on facial cues and their own knowledge of the world (e.g., falling down will make someone feel sad) by 5 years of age. However, it was not until around age 7 that most children showed an understanding that changing one's beliefs can change the nature of one's emotions (Pons, Harris, & de Rosnay, 2004). To the extent that generic-you requires explicit reflective capacities supported by executive function or theory of mind, then we may not expect children younger than around 7 years of age to be able to use generic-you to make meaning from negative events.

On the other hand, some evidence suggests that children younger than 7 do possess the ability to engage in perspective-taking and generate strategies to help hypothetical characters cope with negative experiences. Davis and colleagues (2010) showed that when presented with

familiar scenarios (e.g., not being able to go outside and play), 5- and 6-year-old children produced a variety of strategies that the character could use to make themselves feel better, including focusing on different goals or thinking about a situation differently (Davis, Levine, & Quas, 2010).

To our knowledge, prior studies have not examined children's ability to derive explicit lessons from personal or hypothetical experiences. Generic-you, by allowing a person to represent an event as an instantiation of a broader phenomenon, may provide a seamless way for children to formulate lessons. In support of this idea, literature on generic language demonstrates that young children have an early capacity to think about specific individuals as instantiating more general categories. Broadly, generics refer to categories (e.g., lions, girls, mothers) rather than individuals (e.g., Simba, *that* girl, *my* mother), and generic statements convey information about categories that is stable and broad (Gelman, Star, & Flukes, 2002; Prasada, 2000). Research finds that children produce generic statements by about 2.5 years of age (Gelman, Goetz, Sarnecka, & Flukes, 2008), and by 4 years of age children understand the implications of generic statements for inferences about groups (Hollander, Gelman, & Star, 2002). Further, as summarized above, recent research suggests that children as young as two years old use generic-you (to refer to people in general) in response to questions about norms (Orvell et al., 2018).

In sum, prior research provides mixed evidence as to whether young children may be able to recruit generic-you as they attempt to make meaning from negative experiences. Given that generic-you is produced as early as two years of age (Orvell et al., 2018), it is unlikely to require explicit, reflective capacities; further, prior research suggests that children have a grasp of generic language and the contexts in which it may be appropriate starting early in development.

Given this, it is plausible that young children may use generic-you as a linguistic tool to construct generalizable lessons about negative events.

The Present Study

In the present study, we addressed the question of whether children draw on generic-you to express norms and make meaning in the context of negative events by presenting children with two stories that depicted everyday conflicts. After each story, participants were asked one of two sets of questions: one set prompted them to reflect on what lessons the character in the story learned from the experience, the other asked them to reflect on how the character felt during the story.

We predicted that instructing children to consider what lessons the character could learn (i.e., to make meaning from the event) would result in increased use of generic-you, indicating that children make meaning from negative events by generalizing beyond the individual experiencing the event to people in general (i.e., by treating the event as normative). Given varying perspectives from research on the development of emotional understanding, theory of mind, and children's use of generic phrases, we recruited children across a wide age range (i.e., 4 -10 years of age) in an effort to detect when this capacity arises.

Method

Design

We used a 2 (story) x 2 (condition) within-subjects design. All children were presented with two stories, both of which depicted everyday conflicts, and two sets of questions. One set of questions focused children on reliving how the character felt during the story (hereafter referred to as the Relive condition) whereas the other focused children on what lessons the character could learn from the experience (hereafter referred to as the Lessons Learned condition).

Participants

Participants were 89 children (32 female) between the ages of 4.51 and 10.77 years old, $M = 7.62$, $SD = 1.64$. Data were collected in two waves (Wave 1 = 42; Wave 2 = 47). All participants were recruited from two children's museums in a small Midwestern city. An additional three children did not complete the study and an additional five children were excluded for failing to comprehend the stories (criteria described below).

Materials

Each participant saw an illustrated storybook containing three short stories. The first two stories described everyday conflicts and constituted our experimental stimuli. One story depicted a child whose sandcastle was destroyed by another child on the beach; the other described a child who was excluded on the playground. Each story was two sentences in length, spread across two pages, with an illustration on each page (see Tables B1-B2 in the Appendix for full text). Illustrations were included to enhance the ecological validity of the task, and to aid in comprehension and memory (Levin & Lesgold, 1978). We counterbalanced the order of the first two stories. Condition (Relive vs. Lessons Learned) was fully crossed with story and order. The last story always described a positive experience (going to a birthday party). Its purpose was solely to end the experiment on a positive note. Children were shown storybooks with characters that were the same gender as them. A sample page is presented in Figure 8.

Figure 8. Example page from the "Playground" story used in the experiment. Reprinted from Orvell, Kross, & Gelman (2018).

Procedure

Two experimenters administered the study at tables set up in the galleries of two children's museums. When parents and children approached the table, one experimenter (Experimenter A) obtained consent and asked the parent for permission to audio-record the session. The other experimenter (Experimenter B) spoke with the child to ensure that they felt comfortable and obtained verbal assent. During the session, Experimenter A initiated audio recording and transcribed participants' responses while Experimenter B worked directly with the child to administer the protocol. The experimenters took turns performing these roles. When one experimenter was not present, a single experimenter completed all of the above duties (n = 22). Children were tested individually.

Main task. To signal that the experiment was beginning, the experimenter told the child that they would now be reading stories together. After reading the first story to the child, the

experimenter assured the child that there were no right or wrong answers. They then asked the child what happened in the story to ensure that the participant understood it; if the child was unable to recount the story, the experimenter re-read it to the child. After data collection was complete, one coder assessed participants' responses to this "retell" question. To be included in the study, participants needed to mention that the character felt negative emotions and/or the main conflict in the story; five children (two 5-year-olds, two 6-year-olds, and one 9-year-old) were excluded for not comprehending the story based on these criteria.[6]

Experimental manipulation. Based on what order the child had been randomly assigned to, the experimenter then administered either the Relive condition questions, which focused on how the character felt, or the Lessons Learned condition questions, which focused on what the character could learn from the experience. The wording of the questions administered in each condition was fixed for both stories, with the exception of contextual details that were specific to the story (e.g., the character's name, the details of the conflict). In both conditions, children were then asked several exploratory questions (see Appendix B for all questions administered in the protocol). We did not observe condition differences in response to the exploratory questions (all $ps \geq .85$) and they are not discussed further.

The questions were asked in the same order for every trial so that children first received the questions that focused them on the relevant condition (Lessons Learned vs. Relive), because these were directly relevant to our hypothesis. The experimenter repeated the question if the child asked for it to be repeated or if the child appeared confused. If a participant interjected during the story or questions, the experimenter acknowledged the child's comment and swiftly redirected the child's attention to the task at hand.

[6] All results reported below remained statistically significant when including children who failed the comprehension check in the analyses.

After completing the questions associated with the first story, the experimenter read the other story to the child and then administered the questions associated with the remaining condition.

Once the child answered both sets of questions (i.e., regarding the two stories about conflicts), the experimenter read the final story about a birthday party and asked the child about the last time they had gone to a birthday party. Finally, the child was thanked for their participation and picked out a small toy as a thank-you gift. The experimenters then provided parents with a debriefing form and thanked them for their participation.

After the first wave of data collection, we made four changes to improve the study method. First, we added a short warm-up activity that encouraged children to speak in full sentences. Second, we removed one question from the Lessons Learned block: "What could *people* learn if something like this happened to them?" (italics added for emphasis), which we deemed to be a confound. We determined that this question was confounding because it explicitly asked for a general interpretation, and thus may have inflated usage of generic-you. Responses to this question generated by participants from Wave 1 were therefore excluded from all analyses. This question was presented last within the Lessons Learned block, so it could not have influenced children's responses to the other question in this condition. In Wave 2, this question was replaced with, "What did [character name] learn from what happened?" Third, we excluded children younger than 5 years 0 months because we observed that 4-year-olds had difficulty completing the task. Finally, we added an additional exploratory question at the end of the protocol, "What do you do when people are mean?"

This research was reviewed and approved by the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board.

Transcription and Coding

We had clear audio data that was recorded with the use of an external microphone from 67 participants; an additional 16 participants had audio-recordings that were less intelligible due to the lack of microphone. Two participants had parents who did not give audio-recording permission, and there were technical problems where the audio did not record for 4 participants. When two experimenters were present during testing, Experimenter A transcribed participants' responses during the experiment. When only one experimenter was present (n = 22), the child's responses were transcribed after the session was complete. A research assistant then checked all transcriptions for accuracy for participants with audio data. Once transcriptions were complete, two independent coders who were blind to the study design and hypotheses coded children's responses for the usage of generic-you. Reliability between the coders was high, $\alpha = .93$; a third coder resolved all discrepancies. Once discrepancies were resolved, two sum scores were calculated for each participant indicating the number of times the child used generic-you in the Relive ($M = 0$; $SD = 0$) and Lessons Learned ($M = .38$, $SD = 1.16$) conditions, respectively.

Results

Manipulation check. To ensure that the Relive and Lessons Learned conditions focused children on the emotions that the character felt and on drawing lessons that extended beyond the immediate context of the story, respectively, we content coded children's responses to the questions administered in each condition based on these criteria (0 = absent, 1 = present). Coders practiced on 10% of the cases; agreement on the remaining cases was high, $\kappa_{emotionality} = .97$, $\kappa_{lessons} = .71$, and discrepancies were resolved through discussion. As expected, participants mentioned emotional states more in the Relive condition than in the Lessons Learned condition

(100% vs. 17%, respectively). Analogously, participants mentioned lessons more in the Lessons Learned condition than in the Relive condition (58% vs. 0%), demonstrating that our manipulations were effective.

Overview of analyses. Initial inspection of the data revealed that children never used generic-you in the Relive condition. Given that the data were not normally distributed, we transformed the generic-you responses into a dichotomous variable (0 = Generic-you absent; 1 = Generic-you present) and then analyzed the data using McNemar's exact binomial test for repeated measures dichotomous variables (Levin & Lesgold, 1978).[7] Because we made slight changes to the methodology implemented across study waves to strengthen the design, we first analyzed data from each sample separately for our core analyses, and then collapsed across the samples.

Main analyses. As predicted, participants used generic-you more in the Lessons Learned condition than in the Relive condition. This pattern was descriptively present in the first wave of data collection, Wave 1: 10% of participants used generic-you in the Lessons Learned condition, compared to 0% of participants in the Relive condition, McNemar's exact binomial test, $p = .125$, and significant in Wave 2 of data collection: 26% of participants used generic-you in the Lessons Learned condition, compared to 0% of participants in the Relive condition, McNemar's exact binomial test, $p < .001$. Combining the data from the two waves of data collection also yielded significant results, McNemar's exact binomial test, $p < .001$. Specifically, 18% of participants in the Lessons Learned condition used generic-you in their responses across both

[7] Conducting the analyses using McNemar's test with a chi-square distribution yielded similar results. The only substantial difference was that on the chi-square distribution the findings for Wave 1 were statistically significant, $p < .05$. We report the results using the exact binomial test following recommendations for the low frequencies we observed in cells b and c of the 2x2 contingency table.

waves of data collection compared to 0% in the Relive group (see Table 6 for example responses). Among the subset of participants who generated lessons according to our manipulation check coding, however, rates were higher: 31% of children used generic-you in the lessons learned condition. The majority of participants who used generic-you did so only once (63%); the maximum number of times a participant used generic-you in their response was eight.

Table 6

Sample responses including generic-you from children in the Lessons Learned condition

That it is ok if somebody destroys **your** castle.
She learned how it feels to have something **you** worked really hard on wrecked and **your** feelings hurt.
That sometimes people won't let **you** play.
That **you** should be kind to one another.
That sometimes people will exclude **you**.
That **you** can't play with people all the time and **you** have to make new friends

Note. Sample responses including generic-you from children in the Lessons Learned condition (e.g. "What did [character name] learn from what happened?"). Instances of generic-you appear in bold. Reprinted from Orvell, Kross, & Gelman, 2018.

Exploratory analyses. Although our experiment was not explicitly designed to examine developmental effects associated with the production of generic-you, we explored this issue in a supplementary set of analyses. We combined the data across the two waves of data collection to enhance our power for detecting any effects associated with age. We then performed a median split on age and re-ran a McNemar's exact binomial test for participants below and above the

median age of the sample (median = 7.59 years)[8]. The results of this analysis indicated that both younger ($n = 45$), $p = .031$, and older ($n = 44$), $p = .002$, participants used generic-you significantly more in the Lessons Learned condition than in the Relive condition; specifically, 13% of younger participants and 23% of older participants in the Lessons Learned condition used generic-you, compared to 0% of participants in both age groups in the Relive condition.

Discussion

A central premise guiding this research is that moving beyond the here-and-now to understand negative events within a broader context is a fundamental way that people make meaning from experience (Frankl, 1966; Janoff-Bulman & McPherson Frantz, 1997; Kross & Ayduk, 2017; Park, 2010). One powerful indicator of this is generic-you, which allows adults to understand a negative event as not just tied to the individual it involves, but rather as an exemplar of a normative experience that others may similarly undergo (Orvell et al., 2017). This study tested whether children also derive meaning from negative experiences in this way. Our results indicated that they do.

It is important to point out that children could have generated many "lessons" concerning what the character learned, *without* using generic-you. Indeed, the questions in the Lessons Learned condition focused specifically on the individual character himself or herself (e.g., "What did *Alex* learn when another girl told her she couldn't play?", italics added for emphasis). Thus, it would have been entirely appropriate for children to generate lessons that were focused on the specific event and character. For example, they could have surmised that the child in the story should not build sandcastles on the beach, or that the child should never build a sandcastle near

[8] McNemar's Test precluded us from examining the effect of age continuously. We chose to conduct a median split because we did not have a large enough sample to examine condition effects within finer-grained age groups.

other people because they might break it, both of which were actual responses provided by children in our sample. Thus, it is notable that some children in the Lessons Learned condition extrapolated from this specific, hypothetical story to formulate generalized norms about what *people in general*—not just the character in the story—could learn from such a situation.

At the same time, an important unresolved question is how to interpret the finding that only around one-fifth of children in the Lessons Learned condition used generic-you. One possibility is that use of generic-you in emotional contexts increases with development. On a conceptually related task in which adult participants were instructed to make meaning from a negative, autobiographical experience, adults produced generic-you at over twice the rate of children in our sample (46% vs. 18%, respectively) (Orvell et al., 2017).

On the other hand, the relatively low rate for children in the present study may partly reflect that they were talking about a third-party vignette. Prior work indicates that the intensity of a negative experience is correlated with generic-you usage (Orvell et al., 2017), suggesting that this tool "comes online" as the need for making meaning is greater. Thus, it is possible that if children were prompted to make meaning from an autobiographical experience, rates of generic-you usage would be higher. Regardless of the reasons for the relatively low rates of usage, the present findings indicate that children, like adults, view generalizing to others as a way to draw lessons from negative events.

Moreover, this pattern of results held among both the younger and older children in our sample. As a caveat, we were underpowered to detect finer-grained developmental patterns, and only a small number of four-year-olds were included in our sample. Still, these results suggest that starting at a young age, children are able to use language to make meaning from negative events, even as some of the cognitive processes that are thought to underlie this capacity are still

developing (Anderson, 2002). Future research should continue to explore this issue. It should also examine precisely when in development children begin to generalize from negative experiences and whether individual differences (e.g., executive function, vocabulary) co-vary with generic-you usage.

From an applied perspective, these findings have implications for parents and teachers. It is well established that children often struggle to move beyond the immediate situation, and become overwhelmed by their emotions in challenging circumstances (Metcalfe & Mischel, 1999). Research with children suggests that achieving psychological distance when faced with such difficult situations is one way to help children regulate their emotions more effectively (Kross, Duckworth, Ayduk, Tsukayama, & Mischel, 2011; Mischel & Rodriguez, 1993; White et al., 2017; White & Carlson, 2016). Generic-you may provide parents and teachers with a linguistic tool that they can use to help children learn lessons from their experience by encouraging them to view negative events as normative, rather than tied to the specific situation. Modeling lessons in this way with generic-you may help children transcend the immediacy of a situation (i.e. achieve psychological distance) and cope more effectively. Relatedly, observing children use generic-you to talk about their own negative experiences may serve as a useful linguistic indicator that they have effectively made meaning from a negative event. In summary, generic-you may provide a relatively effortless but powerful way to promote coping and meaning-making in young children.

As suggested above, another important question for future research concerns whether children also spontaneously use generic-you as they attempt to draw lessons from their own personal negative experiences, in addition to hypothetical third-person scenarios, such as the ones used here. Crafting personal narratives, particularly those surrounding moral conflict or

negative experiences, has been identified as an important process for promoting meaning-making and learning among children (Baker-Ward, Eaton, & Banks, 2005; Fivush, Hazzard, McDermott Sales, Sarfati, & Brown, 2002; Fivush, McDermott Sales, & Bohanek, 2008; McLean & Pratt, 2006; Tappan & Brown, 1989). It is possible that guiding children to form narratives surrounding negative events may provide a way for them to more easily discover a generalizable lesson that they can draw from their experience, using generic-you.

Starting at a young age, children are confronted with negative experiences that they are driven to make sense of. This study demonstrates how language may support this meaning-making process by providing children with a tool that allows them to move beyond the here and now and derive generalizable life lessons.

CHAPTER IV

"You" and "I" in a Foreign Land: Examining the Normative Force of Generic-You

Imagine that you just set foot in a foreign country. You ask a group of locals, "Where do you sit in a taxi around here?" One person says, "**I** sit in the front seat, next to the driver." Another says, "**You** sit in the back seat, behind the driver."

Whose response do you have more confidence in?

It may seem far-fetched to expect that such a subtle linguistic shift—using "you" versus "I"— could influence something as important as the perceived veracity of someone's advice. Yet in this paper, we propose that such linguistic cues robustly affect people's interpretation of new information, informing what behaviors they believe are appropriate in a given context. Specifically, we suggest that using the word "you" to refer to people in general (i.e., hereinafter referred to as "generic-you") leads people to consider novel information as more normatively correct.

Norms are often referred to as a 'glue' that binds societies together. They provide people with information regarding what behaviors are expected, typical, or approved of in a given situation (Cialdini, Kallgren, & Reno, 1991; Rakoczy & Schmidt, 2013; Sripada & Stich, 2006) People may learn about norms in a variety of ways—through broad socio-cultural influences (e.g., institutions, family exchanges, rituals), nonverbal cues, observation of behaviors, or explicit instructions (Cialdini & Trost, 1998; Tankard, & Paluck, 2016). In situations that are ambiguous, the actions of others are particularly important for signaling what is normative

(Asch, 1951; Goldstein & Cialdini, 2007; Smith, Hogg, Martin, & Terry, 2007). For example, in Sherif's now classic experiment, individuals altered their initial judgments of how far a pinpoint of light shifted in a dark room to conform to the judgment of the group, leading Sherif (1936) to conclude that in situations of uncertainty, "the group must be right" (p. 111).

In the absence of a physical group, language can serve as an important signal of what is normatively correct. This linguistic information can be expressed directly, for example, "Thou shalt not steal" or, "In this classroom, students should hang their coats up neatly." However, it may additionally be expressed indirectly, by means of subtle linguistic cues. In particular, we suggest that a linguistic device expressing the *generality* of a behavior may further signal that it is normative. Here we focus on one such cue, namely, generic-you (i.e., using 'you' to mean 'one' or 'people in general,' e.g., "What doesn't kill you makes you stronger"), a pervasive but understudied linguistic mechanism that expresses information about people in general, and which exists in multiple languages (Berry, 2009; Bolinger, 1979; Huang, Srioutai, & Greaux, 2018; Laberge & Sankoff, 1979). Through a subtle shift in perspective, generic-you allows the speaker to expand the scope of a statement to express information that generalizes across a specific time or place (Kamio, 2001; Laberge & Sankoff, 1979).

It is important to point out that generic-you in and of itself simply means that a given statement refers to "any person in general," and, by virtue of being generic, further implies that the statement is stable across time. These characteristics may lead people to make normative inferences when generic-you is used, particularly in certain contexts. Specifically, in situations of uncertainty, where an individual is motivated to discern what is normative, the use of 'you' to mean 'people in general' may lead individuals to infer that a given action is widely shared, and by extension, the way things *should* be done (i.e., prescriptive). In support of this idea, research

demonstrates that people have a tendency to infer prescriptive norms—that is what *should* be done, from descriptive information—that is, what *is* done (Bear & Knobe, 2016; Roberts, Gelman, & Ho, 2016).

Existing research supports the notion that generic-you and norms are tightly linked, demonstrating that people spontaneously use generic-you to express norms about both self-relevant, emotional experiences (e.g., "Facing death changes you"), and non-emotional ones (e.g., "You carry an umbrella in the rain") (Orvell et al., 2017). Both children and adults selectively use generic-you in normative contexts. For example, when asked questions that cued norms, adults and children as young as two years were more likely to answer using generic-you compared to when asked questions that cued preferences, to which they were more likely to answer using "I" (Orvell et al., 2017; Orvell et al., 2018). For example, adults prompted to consider norms when asked the question, "Where do you go to relax?" were more likely to provide responses containing generic-you (e.g., "You go somewhere quiet") whereas people prompted to consider preferences were more likely to respond using "I" (e.g., "I like to go to the spa").

Prior research, then, has established that normative contexts are tightly linked with the *production* of generic-you. Whether adults use generic-you to inform their *interpretation* of norms, however, is unknown.

Hints from the literature on generic noun phrases suggest that people may indeed be sensitive to the normative implications of generics, including generic-you. It is well-established that generic noun phrases (e.g., "Dancers are graceful", "Lions have manes") express category-relevant information that applies broadly (Hollander, Gelman, & Star, 2002; Leslie, 2015; Prasada & Dillingham, 2006, 2009; Roberts, Ho, & Gelman, 2017). Importantly, individuals may

also use generic noun phrases to communicate norms. For example, people might say, "Boys don't cry" not because this statement is literally true but because it expresses normative expectations (Knobe, Prasada, & Newman, 2013; Prasada & Dillingham, 2006; Wodak, Leslie, & Rhodes, 2015). In this vein, several scholars have proposed that generic language may play a role in the transmission and interpretation of norms (e.g., Gelman & Roberts, 2017; Wodak et al., 2015). However, no work to our knowledge has directly tested this hypothesis. We focus on generic-you because, unlike generic noun phrases, which express information that is tied to a particular category (e.g., women, doctors, gymnasts), generic-you expands the scope of an utterance to refer to people in general. This has implications for how people may discern norms more broadly.

Research Overview

Five studies examined whether individuals endorse unfamiliar behaviors as more normative when they are expressed with generic-you (vs. 'I'). In all of our experiments, participants were told to imagine that they were visiting a foreign land. They were then presented with a series of unfamiliar behaviors, described with either generic-you or 'I,' and were asked to endorse how normative a given behavior was. Experiments 4 and 5 examined boundary conditions by manipulating how much knowledge the inhabitants of the foreign land possessed. Across all of our experiments, we prioritized robustness by using well-powered, within-subjects designs, and iteratively replicating our results.

Experiment 1

Experiment 1 examined whether people make use of generic-you, which implies that a given action is general, to inform their interpretation of what is normative. Because our goal in this initial experiment was to provide the sharpest possible contrast between generic and non-

generic language, we presented generic responses with generic-you and a present tense, non-progressive verb (e.g., "You eat ice cream with a spoon") and non-generic responses with "I" and a present tense, progressive verb (e.g., "I am eating ice cream with a spork.").

To strengthen our manipulation, we created a context in which participants would be motivated to identify whether the described action was normative or not. Specifically, we told participants to imagine that they were visiting a foreign land with objects that they had never seen before, and that they would have an opportunity to talk to inhabitants of the land to figure out how to use them the right way. Importantly, participants were told that some of the inhabitants were using the objects correctly, whereas others were using them in a silly way. We reasoned that generic language, which implies that a given action is stable across time, would provide a stronger cue than non-generic language that a given action was correct. After being presented with a response that contained generic-you and one that did not contain generic-you, participants were asked to select the correct way to use the object. We predicted that participants would more often select the response expressed with generic-you.

Method

Participants. No precedent for an established effect size existed. However, we aimed to collect data from 100 participants using TurkPrime (Litman, Robinson, & Abberbock, 2016), reasoning that this would be a sufficient sample to detect a small to medium effect in a within-subjects design. One hundred and eight individuals began the task. Four participants were excluded for dropping out of the study, one person failed the attention check regarding which action they were supposed to select (i.e. the correct one vs. the silly one), and one person did not answer this question. This left a sample of 102 participants (42 women), M_{age} = 35.47, *SD* = 10.55, 80% White.

Materials. We selected objects that prior research with children had established as relatively unfamiliar (Corriveau & Harris, 2009; Gaither et al., 2014). For each object, participants were presented with a label (for example, a garlic peeler was referred to as a "snegg") and two different ways to use it, one using generic language and the other using non-generic language (e.g., "You twist a snegg" or "I am squeezing a snegg"). Table 7 provides the photographs, labels, and functions for each object.

Table 7

Stimuli used in Experiments 1-2

Item	Label	Action A	Action B
	Snegg	Look through	Blow through
	Hoon	Roll in between hands	Slap on hands
	Linz	Twist back and forth	Squeeze up and down
	Slod	Hold up to eye	Fly around

Design. We used a repeated measures design with four trials. As a between-subjects factor, we varied pronoun order, such that participants received either two trials where actions described with 'you' were presented first, or two trials where actions described with 'I' were presented first. Whether the speaker described a given action with generic-you or 'I' was also counterbalanced between participants. Trials within each block were randomized.

Procedure. After providing consent and indicating that they were native English speakers, participants were told to imagine that they were in a foreign land with unfamiliar

objects that they had never seen before, and that they needed to figure out the right way to use them. Participants were next informed that they would be able to watch some people interacting with the objects, and that "Some people are demonstrating their correct use, but other people are playing around and using them in a silly way."

Next, participants completed the four trials. For each trial, participants were shown a picture of an object and provided with a label, and read two descriptions of how to use the object. They were then asked to select the right way to use the object. For example:

This is a snegg.

Person A person looks through a snegg and says, "You look through a snegg."

Person B person blows through a snegg and says, "I'm blowing through a snegg."

Based on what the two people said, what's the right way to use sneggs?

- Look through sneggs
- Blow through sneggs

After completing four trials, participants were given an attention check that asked whether they were supposed to select the action that they thought was the "correct way to use the object" or the "incorrect, silly way to use the object." Participants then completed several debriefing questions that probed their intuitions as to what the study was about, and how they judged which action was the "correct" one. Specifically, they were asked, "What do you think we were interested in looking at in this study?" "Did anything seem strange to you?" and "How did you judge which action was the 'correct' one?" We also asked participants whether they recognized any of the objects, and if so, to describe which they recognized; on the majority of trials (92%), participants indicated no familiarity with the objects.

Results

To examine whether generic language leads people to interpret unfamiliar behaviors as more normatively correct, we calculated the percent of times each participant chose actions described with generic language across the four trials. A one-sample *t*-test indicated that participants selected actions described with generic language 62.50% of the time, which was significantly above chance (50%), $t(101) = 4.85$, $p < .001$, 95% CI [57.39, 67.61]. There was no effect of pronoun order on participants' tendency to choose generic actions, $b = 1.97$, $t(100) = .38$, $p = .705$.

A corrected percentage score, which included only trials for which participants indicated no familiarity with the object, was also calculated. Using this percentage score yielded similar results: participants chose actions described with generic language 62.09% of the time, which was significantly above chance, $t(101) = 4.39$, $p < .001$, 95% CI [56.62, 67.56].

Discussion

Experiment 1 established that generic-you led people to endorse behaviors as normative. Specifically, we found that people were sensitive to converging linguistic cues in the form of pronoun (i.e., generic-you vs. 'I') and verb aspect (i.e., simple present, e.g., "look" vs. present progressive, e.g., "looking"), and used them to inform their judgments of norms. This study demonstrated that people used linguistic cues, above and beyond features of the object, to inform their judgment of how normative a given action was.

Although these findings are in line with our predictions, we cannot know if the generic pronoun itself contributes to the findings, or instead if they are wholly due to the different forms of the verb. Certainly different verb aspects have important semantic implications independent of the pronoun (e.g., "she looks" [simple present] may imply a repeated event (Corriveau & Harris,

2009; Gaither et al., 2014), whereas "she is looking" [present progressive] may be more likely to imply a one-time event, in this case, the silly usage (Carlson & Pelletier, 1995).

Experiment 2

In Experiment 2, we examined whether varying *only* the pronoun (i.e., generic-you vs. 'I') would affect participants' judgments of which action was the correct one. This provided a stronger test of our hypothesis that behaviors described with generic-you will be judged as more normative than those described with 'I'. To provide a different plausible contrast for why one person would be following the norm and the other person would not be, we introduced the idea that some people were from the foreign land and knew how to use the objects, whereas others were new to the land, and did not know how to use the objects.

Method

Participants. We again aimed to recruit 100 participants through TurkPrime (Litman, Robinson, & Abberbock, 2016).[9] Data from 110 individuals were collected. One participant was excluded for not being a native English speaker, an additional six participants were excluded for dropping out, and one participant was excluded for failing the attention check regarding which action they were supposed to select (i.e., the correct one vs. the incorrect one). This left a sample 102 participants (37 women), M_{age} = 36.66, *SD* = 11.31, 80% White.

Materials. See Experiment 1.

Design. See Experiment 1.

[9] A post-hoc power analysis using G*Power3 was conducted after Experiment 1 to determine achieved power. The power analysis revealed that a sample of 47 participants would provide 95% power to detect an effect size for d = .49. However, we expected that the size of the effect in Experiment 2 may be smaller when only pronoun varied, so we again collected data from 100 participants.

Procedure. The procedure differed from Experiment 1 in three respects. First, as described above, the generic and non-generic answers differed only in the pronoun that was used ('you' vs. 'I'). Second, as described above, we altered the framing of the task. Rather than tell participants that some people were using the objects in a silly way, we constructed a different context for why one person would be following the norm and the other person would not be. Specifically, participants were told:

> "Some people are from this land and know how to use these objects. They learned how to use them when they were children, and they have seen many people using them before. Other people are not from this land, and do not know how to use these objects. They only recently encountered these objects, and have not seen others using them before."

Third, before each trial we instructed participants to consider that they had first asked the target question (e.g., "You ask, 'What do you do with sneggs?'"). This ensured that the 'you' in the response was generic, not directed at the addressee, because a question asked with "you" that is answered with "you" is typically interpreted as generic. We then asked participants, "Based on what the two people said, what should you do with sneggs?" For example:

> You ask, "What do you do with this?"
>
> Person A person looks through a snegg and says, "You look through a snegg."
>
> Person B person blows through a snegg and says, "I blow through a snegg."
>
> Based on what the two people said, what should you do with sneggs?
>
> - Look through
> - Blow through

After completing four trials, participants completed an attention check where they were asked whether they were supposed to select the action they thought was the correct or incorrect way to use the object. They then completed the same debriefing and demographic questions administered in Experiment 1. We again asked participants whether they recognized any of the objects; on the majority of trials (90%), participants indicated no familiarity with the items.

Results

Participants selected the actions described with generic-you 57.60% of the time, which is significantly above chance (50%), $t(101) = 2.87$, $p = .005$, 95% CI [52.35, 62.85]. There was no significant effect of pronoun order on participants' tendency to select the action expressed with generic-you, $b = 2.45$, $t(100) = .461$, $p = .646$.

We again calculated a corrected percentage score to exclude trials on which participants indicated familiarity with the objects. Using this score, participants chose objects with "you" 56.94% of the time, which was significantly above chance, $t(101) = 2.50$, $p = .014$, 95% CI [51.43, 62.46].

Discussion

Experiment 2 indicated that generic vs. specific pronouns alone can influence whether individuals interpret a given action as normative. To our knowledge, this is the first experiment to demonstrate that a simple shift in pronoun (i.e., from specific 'I' to generic-you) can affect the normative interpretation of information. These findings demonstrate that people are sensitive to such subtle linguistic shifts, using them to inform their judgment of how normatively correct a given action is.

Experiment 3

In Experiments 1 and 2, participants were given information about how to use objects. Our next set of studies sought to extend these findings by assessing whether generic-you is also useful for providing information about behavioral customs, which are flexible and can vary across contexts and cultures. In the United States, for example, people ride the "up" escalator standing on the right side, whereas in Japan, they ride the "up" escalator standing on the left side. To figure out the correct way to do things in Japan, an American would likely be reliant on social input, and may, for example, look to how most people are acting in a given situation. We reasoned that the generic usage of the word "you" might likewise serve as a cue regarding how people act in a given context. Thus, Experiment 3 was designed to examine whether the effects of generic-you vs. 'I' on judgments of normativity extended to customs, for which social input, in this case via language, would be particularly important.

More specifically, we presented individuals with a series of customs that were meant to be unique to the foreign planet "Zorp." Participants were presented with only one statement at a time, which described a behavior with either generic-you or 'I'. This allowed us to conservatively assess whether generic-you influences people's normative judgments when the pronoun is presented in isolation, rather than directly contrasted with 'I' (as in Experiments 1 and 2). This design also more closely approximates linguistic information that a person would encounter in the real world. That is, typically, people are presented with information from only one speaker at a time, and the speaker's usage of 'I' or generic-you may vary. After reading each statement, participants were asked to judge how confident they were that "this was the right way to do things on Zorp," allowing us to assess whether participants made an inference about how things *ought* to be done.

Method

Participants. We aimed to recruit a sample of 100 participants using TurkPrime (Litman, Robinson, & Abberbock, 2016). Data from 101 individuals were collected. Two participants were excluded because we determined that their responses were provided by nonhuman robots, which complete tasks through automated scripts, or participants on "server farms".[10] An additional three participants were excluded for not being native English speakers. This left a sample of 96 participants (46 women); M_{age} = 36.59, *SD* = 11.60; 80% White.

Materials. Participants were presented with eight trials. Each trial consisted of a question that asked about customs on the foreign planet; for example, "What do you do before a meal on Zorp?" and an answer to that question, which contained either generic-you or 'I'; for example, "I/you give thanks to the gods." Table 8 provides the questions and answers for each of the eight trials.

[10] We identified 'bots' or workers taking HITS from server farms by searching for a GPS coordinate that had been widely reported as appearing in a number of academic studies shortly after our data were collected. We additionally identified 'bots' by searching for other repeating GPS locations, as well as responses to open-ended data that appeared to be provided by a robot (e.g., answers in all caps, answers that were entirely off-topic).

Table 8

Questions and answers used in Experiments 3-5

Question	'You' & 'I' Answers
What do you do before a meal on Zorp?	You/I give thanks to the gods.
How do you greet someone on Zorp?	You/I grab their left elbow with your/my right hand and shake it.
How do you show respect for your host on Zorp?	You/I do not clean up after yourself/myself and instead allow them to do it.
When do you arrive at a party on Zorp?	You/I arrive 10 minutes early, to show your/my excitement.
Where do you sit in a taxi on Zorp?	You/I sit in the front seat, next to the driver.
How do you dance at a party on Zorp?	You/I only dance in groups of 4 people or more.
How do you order food at a restaurant on Zorp?	You/I order your food with your/my eyes lowered.
How do you dress on Zorp?	You/I wear clothes that cover your/my knees.

Note. For each question, participants were provided with either the 'You' or the 'I' answer. Participants saw each question only once. For each participant, four questions were presented with 'you' and four were presented with 'I'.

Design. We used a within-subjects design that included repeated measures for pronoun (generic-you vs. 'I'). Participants received four unique trials with answers that contained generic-you and four unique trials with answers that contained 'I'. Pronoun usage was blocked, and pronoun order was counterbalanced, such that half of the participants received four trials in a row with 'you' answers first, and half received four trials in a row with 'I' answers first. In the first block, four trials were randomly selected from the pool of eight questions. In the second block, participants were presented with the four remaining questions. Thus, our design ensured that each question was presented only once to each participant and was paired equally often with both

types of pronouns across participants. The order of the trials was further randomized within each block.

Procedure. After providing consent, participants were presented with a cover story similar to that used in Experiment 2. Specifically, participants were told to imagine that they had just arrived on a foreign planet called Zorp, which had customs that were very different from those on Earth. Next, they were told that to figure out how to do things on Zorp, they would be able to ask people who lived there some questions. As in Experiment 2, participants were told that some people were from Zorp and knew all of the customs, whereas other people were new to Zorp, and did not know any of the customs. Participants were then told to "figure out the right way to do things on Zorp based on what [the people] say." Participants then completed the eight trials, rating their level of confidence that "this was the right way to do things on Zorp" (1-not at all confident, 7- extremely confident) after each one.

After completing the trials, participants answered the same three debriefing questions used in Experiment 2, and completed demographics.

Results

We analyzed the data using a multi-level, mixed-effects approach. This allowed us to consider the fixed effects of pronoun ('You' vs. 'I') and order ('I' block 1st vs. 'You' block 1st), while also allowing us to take into account random variation associated with the different questions.[11] We analyzed the data using R's lme4 package for mixed-effects (Bates, Maechler, et al., 2015). We obtained degrees of freedom and *p*-values for the mixed-effects models using the

[11] Because Experiments 1 and 2 consisted of a force-choice paradigm that counterbalanced across participants which action was paired with generic vs. non-generic language, we used a simple one-sample t-test. In Experiments 3-5, our stimuli were more variable across trials and we had additional, between-subjects factors; for these reasons, we elected to use multi-level modeling.

lmerTest package (Bates, Maechler, et al., 2015). Our model treated Pronoun ('You' = .5 vs. 'I' = -.5) and Order ('I' 1st = .5 vs. 'you' 1st = -.5) as fixed effects. Slopes and intercepts for the effect of Pronoun on confidence ratings were allowed to vary across participants, and the intercept for the effect of trial on confidence ratings was also allowed to vary. Because we had no reason to expect the effect of pronoun to be different for different questions, and because our design ensured that different pronouns were equally distributed across the eight questions, we used a more parsimonious model, which treated trial as a random effect with random intercepts, not slopes (Kuznetsova, Brockhoff, & Christensen, 2017). Indices of model fit comparing the two models confirmed that the more parsimonious model was appropriate (i.e., there was not a significant difference between the two models, $\chi^2 = .21$, $p = .902$). Table 9 provides the results for all fixed and random effects included in the model; below, we include the fixed effects of primary interest.

As predicted, participants expressed more confidence that a given action was the right way to do things on Zorp if it was presented with generic-you ($M = 4.43$, $SE = .19$) compared to 'I' ($M = 4.07$, $SE = .19$), b = .36, $SE = .12$, $t(94) = 3.01$, $p = .003$, 95% CI [0.13, 0.59]. Whether participants received the block with generic-you or 'I' first did not significantly affect their confidence ratings, b = -.28, $SE = .19$, $t(94) = -1.45$, $p = .150$, 95% CI [-0.65, 0.10]. Additionally, there was no significant interaction between pronoun type and pronoun order on confidence ratings, b = -.24, $SE = .24$, $t(94) = -1.00$, $p = .321$, 95% CI [-0.71, 0.23].

Table 9

Model testing the fixed effect of Pronoun and Order on participants' confidence ratings.

Fixed Effects	b	*se*	*t*	df	*p*	95% CI
Intercept	4.25	0.18	22.97	11	<.001	3.87, 4.63
Pronoun	0.36	0.12	3.01	94	.003	0.13, 0.59
Order	-0.28	0.19	-1.45	94	.150	-0.65, 0.10
Pronoun x Order	-0.24	0.24	-1.00	94	.321	-0.71, 0.23
Random Effects	Variance	Std. Dev.				
Participant						
Intercept	.69	.83				
Pronoun	.64	.80				
Correlation	0.00					
Trial						
Intercept	.20	.45				
Residual	1.46	1.21				

Note. Degrees of freedom rounded to the nearest one. CI represents 95% confidence interval.

Discussion

The findings from Experiment 3 suggest that generic-you carries persuasive value when people make normative judgments about unfamiliar customs. It is notable that this design required participants to evaluate each behavior individually, and that there was no effect of pronoun order on ratings. This illustrates that generic-you not only influences perceptions of how normative a given action is when it is directly contrasted with 'I' but also when it is presented in isolation.

Experiment 4

Experiment 4 was designed to test whether the amount of knowledge possessed by the informant would affect the normative force of generic-you. One important feature of

Experiments 1-3 is that they created an expectation that some of the information that participants were exposed to may be incorrect, either because the inhabitants of the foreign land were using the objects in a silly way (Experiment 1) or because some inhabitants were new to the land and did not know how to do things there (Experiments 2 and 3). In Experiments 2 and 3, we reasoned that this framing might lead participants to infer that a "new arrival" to Zorp would be more likely to answer a question specifically (i.e., with 'I'), describing how they, personally, would act in given situation, whereas a "native" would be more likely to answer for the group, using generic-you.

One question arising from these studies, then, is whether individuals would still be sensitive to the generic usage of 'you' when there was no "new arrival" – that is, when *all* informants knew the norms. If the recipient of information (in this case, the participant) knows that everyone that they are speaking to knows the norms, then the pronoun that the informant uses to express how things are done in a given context may not matter. If, however, linguistic cues influence judgments above and beyond other information that individuals may have access to, then generic-you statements may still nudge people to endorse norms more highly, even when everyone is highly knowledgeable. By stipulating that all the inhabitants in the foreign land are knowledgeable about how to do things there, we provide an even stronger test of the effects of generic-you on people's perceptions of norms.

To this end, Experiment 4 included a between-subjects factor that manipulated how much knowledge the inhabitants of Zorp had. Some participants were given the same cover story as in Experiment 3, in which some people knew how to do things on Zorp, whereas other people did not know how to do things there (referred to hereinafter as the Variable Knowledge Condition).

Other participants were told that everyone knew the customs on Zorp (referred to hereinafter as the High Knowledge Condition).

Within the Variable Knowledge Condition, we expected the findings from Experiment 3 to replicate, with a significant effect of generic-you on participants' confidence ratings. In contrast, we had two competing predictions regarding the High Knowledge condition. On the one hand, it is possible that participants would infer normativity from a single individual, given that they know that every informant is knowledgeable about the customs on Zorp. If this were the case, we could expect to observe a significant Pronoun X Knowledge interaction, with no difference between generic-you and 'I' ratings in the High Knowledge condition. On the other hand, it is possible that generic-you may nudge interpretations of normativity even when participants have no reason to doubt the normative appropriateness of any of the statements. If this were the case, we would expect to observe a main effect of Pronoun on participants' ratings, and no Pronoun X Knowledge Interaction.

Method

Participants. Given the added between-subjects factor, we doubled our target sample size to 200 participants. We recruited 205 individuals using TurkPrime (Litman, Robinson, & Abberbock, 2016). We excluded eleven participants on the basis of identifying them as likely non-human (automated) respondents, following the same criteria outlined in Experiment 3. One additional participant was excluded for not being a native English speaker. This left a sample of 193 participants (74 women); M_{age} = 37.84, SD = 26.77; 82% White.

Materials. See Experiment 3.

Design. As described above, the design for Experiment 4 was identical to that of Experiment 3 with one exception: We added a between-subjects factor where we manipulated

the amount of knowledge that people from Zorp possessed. Specifically, some participants were presented with the same cover story used in Experiments 2 and 3, wherein some people knew the customs on Zorp and some did not (Variable Knowledge condition). Other participants were told that *everyone* knew the customs on Zorp (High Knowledge condition). Specifically, they were told:

> "Everyone is from the planet Zorp and knows how to act in all different types of situations. They learned the customs of Zorp when they were children, and have seen many people doing them before."

Participants in both conditions were then told, "Please try to figure out the right way to do things on Zorp based on what [the people] say."

Thus, our design consisted of a 2 (Knowledge: High Knowledge vs. Variable Knowledge) X 2 (Pronoun: You vs. I) X 2 (Order: 'You' block first vs. 'I' block first) design, where Knowledge and Order were between-subjects factors, and Pronoun was a within-subject factor.

Procedure. The procedure was identical to Study 3; participants completed the eight trials (for each, rating their level of confidence that "this was the right way to do things on Zorp" on a 1-7 scale), and then completed the same debriefing questions and demographics information.

Results

Overview. We used the same R packages described in Experiment 3 to analyze the data. We entered Pronoun ('You' = .5 vs. 'I' = -.5), Order ('I' 1st = .5 vs. 'You' 1st = -5), Condition (High Knowledge = .5 vs. Variable Knowledge = -.5), and all interaction terms as fixed effects. As in the previous model, trial was entered as a random effect. Slopes and intercepts for the effect of pronoun on confidence ratings were allowed to vary across participants, and the

intercept for the effect of trial on confidence ratings was also allowed to vary. Table 10 provides the results for all fixed and random effects included in the model; below, we include the fixed effects of primary interest.

Main analyses. As expected, participants in the High Knowledge condition were more confident overall that the behaviors described were the right way to do things on Zorp ($p < .001$), providing validation that participants attended to the knowledge manipulation.

Consistent with our prior experiments, we observed a main effect of Pronoun, indicating that participants endorsed norms described with generic-you ($M_{you} = 4.75$, $SE = .17$) more highly than those described with 'I' ($M_I = 4.53$, $SE = .17$), b = .22, $SE = 0.07$, $t(189) = 3.10$, $p = .002$, 95% CI [0.08, 0.36]. We did not, however, observe a significant Condition X Pronoun interaction (b = 0.19, $SE = 0.14$, $t(190) = 1.34$ $p = .181$, 95% CI [-.09, .47]; High Knowledge: $M_{you} = 5.29$, $SE = .19$, $M_I = 4.97$, $SE = .18$; Variable Knowledge: $M_{you} = 4.21$, $SE = .19$, $M_I = 4.09$, $SE = .18$). The lack of a significant Condition X Pronoun interaction indicates that the amount of knowledge that informants possessed did not differentially affect the normative force of generic-you on participants' judgments.

Whether participants received the block with generic-you or 'I' first did not significantly affect their confidence ratings ($p = .812$), and there were no other significant interactions (all ps $> .392$).

Discussion

The results of Experiment 4 were consistent with those obtained in the prior experiments: behaviors expressed with generic-you were rated as more normatively correct than those expressed with 'I'. Moreover, the effect of pronoun on participants' ratings of correctness did not vary depending on how much knowledge the inhabitants of Zorp were said to have about how to

do things there. Crucially, this finding was not due to a lack of sensitivity to the two knowledge conditions, because confidence ratings of how correct a given action was were substantially higher overall in the High Knowledge (vs. Variable Knowledge) condition.

Experiment 5

To strengthen our confidence in these findings, we conducted Experiment 5, with several minor methodological changes to rule out alternative explanations for the lack of a significant Condition X Knowledge interaction. These changes were meant to rule out any possibility that participants may have questioned how reliable the "High Knowledge" informants were.

Method

Participants. Our intended sample size was 200 participants recruited through TurkPrime (Litman, Robinson, & Abberbock, 2016). Data from 219 participants were collected. We excluded twenty participants on the basis of having identified them as likely non-human (automated) respondents, following the same criteria described in Experiment 3. An additional 10 participants dropped out of the study or opened the "HIT" and did not complete it, four participants were excluded on the basis of not being native English speakers, one person did not provide consent, and one response was excluded because another (earlier) response was collected from the same IP address. Finally, we excluded 25 participants who failed the attention check regarding how much knowledge the inhabitants of Zorp had. This left a sample of 158 participants (83 women); M_{age} = 36.44, SD = 11.00, 84% White.

Materials. See Experiments 3 and 4.

Design. As in Experiment 4, our design consisted of a 2 (Knowledge: High Knowledge vs. Variable Knowledge) X 2 (Pronoun: 'You' vs. 'I') X 2 (Order: 'You' block first vs. 'I' block

first) design, where Knowledge and Order were between subjects factors, and Pronoun was a within subjects factor.

Procedure. The procedure for Experiment 5 was similar to that used in Experiment 4, with the following minor adjustments. First, within the High Knowledge condition, the directions clarified that these inhabitants not only *knew* the rules, but *followed* them (addition is illustrated here in bold, but was not bolded for participants):

> "Everyone is from the planet Zorp and knows how to act in all different types of situations. They learned the customs of Zorp when they were children, have seen many people doing them before, **and they always do things the right way.**"

We also removed the phrase, "Please try to figure out the right way to do things on Zorp based on what they say" from this condition. We reasoned that this phrase may have introduced potential confusion, because it implied that there was "something to figure out" even though participants in this condition had been told that all inhabitants knew how to act on Zorp. The dependent variable was the same as in Experiments 3 and 4: on each trial, participants rated their level of confidence that "this was the right way to do things on Zorp," on a 1-7 scale.

Results

We used the same analytic approach described in Experiment 4. Table 10 provides the results for all fixed and random effects included in the model; below, we include the fixed effects of primary interest.

Main analyses. As expected, participants in the High Knowledge condition were more confident overall than those in the Variable Knowledge condition that the behaviors described were the right way to do things on Zorp ($p < .001$), again validating the knowledge manipulation.

Replicating our previous experiments, we observed a significant main effect of Pronoun: participants provided higher confidence ratings of the behaviors when they were described with generic-you (M = 5.01, SE = .18) as opposed to "I" (M = 4.73, SE = .17), b = .28, SE = 0.08, $t(152) = 3.42$ p = .001, 95% CI [0.12, 0.43]. Further replicating Experiment 4, there was no Condition X Pronoun interaction, indicating that participants' endorsement of norms expressed with generic-you did not vary based on how knowledgeable their informants were (b = -.21, SE = 0.16, $t(153) = -1.27$, p = .206, 95% CI [-0.52, 0.11]; High Knowledge: M_{you} = 5.73, SE = .20, M_{I} = 5.56, SE = .20; Variable Knowledge: M_{you} = 4.29, SE = .20, M_{I} = 3.91, SE= .20).

Whether participants received the block with generic-you or "I" first did not significantly affect their confidence ratings (p = .629), and there were no other significant interactions (all ps > .20).

Table 10

Model testing the fixed effect of Pronoun, Order and Condition on participants' confidence ratings for Experiments 4 and 5.

	Experiment 4						Experiment 5					
Fixed Effects	b	*se*	*t*	*df*	*p*	CI	b	*se*	*t*	*df*	*p*	CI
Intercept	4.64	0.16	28.44	9	<.001	4.31, 4.98	4.87	0.17	28.56	10	< .001	4.52, 5.22
Pronoun	0.22	0.07	3.10	189	.002	0.08, 0.36	0.28	0.08	3.42	152	.001	0.12, 0.43
Order	-0.03	0.14	-0.24	189	.812	-0.30, 0.24	0.08	0.16	0.48	154	.629	-0.24, 0.40
Condition	0.98	0.14	7.01	189	<.001	0.70, 1.25	1.55	0.16	9.41	154	<.001	1.23, 1.87
Pronoun x Order	-0.06	0.14	-0.41	189	.685	-0.33, 0.22	-0.18	0.16	-1.09	152	.276	-0.49, 0.14
Pronoun x Condition	0.19	0.14	1.34	190	.181	-0.09, .47	-0.21	0.16	-1.27	153	.206	-0.52, 0.11
Order x Condition	-0.06	0.28	-0.22	189	.828	-0.60, 0.48	0.40	0.33	1.23	154	.221	-0.24, 1.05
Pronoun x Condition x Order	0.24	0.28	0.86	190	.393	-0.31, 0.79	-0.40	0.32	-1.24	153	.217	-1.03, 0.23
Random Effects	*Variance*	*Std. Dev.*					*Variance*	*Std. Dev.*				
Participant												
Intercept	.76	.87					.87	.93				
Pronoun	.29	.53					.29	.54				
Correlation	.24						.11					
Trial												
Intercept	.17	.42					.18	.42				
Residual	1.34	1.16					1.45	1.21				

Note. Degrees of freedom rounded to the nearest one. CI represents 95% confidence interval.

Discussion

This experiment provides further evidence that generic-you influences the extent to which a given behavior is interpreted as normative. Moreover, our results from Experiments 4 and 5 indicate that generic-you nudges participants' endorsements of behaviors compared to 'I', and this effect is not dependent on how knowledgeable the informants providing the information are.

General Discussion

The ability to deduce what norms govern a certain situation is an essential component of social life. Across five studies, we find that a subtle linguistic mechanism, the generic usage of 'you', has a consistent effect on people's interpretation of whether a behavior reflects a group norm. While prior studies have focused on how context leads people to shift their use of pronouns—producing 'I' when discussing preferences and 'you' when discussing norms (Orvell et al., 2017)—to our knowledge this is the first set of studies to examine how these linguistic shifts are interpreted. Given this, these results demonstrate that generic-you is functional not just for the speaker, but for the listener as well. Specifically, they illustrate that whether a pronoun is personal (i.e., 'I') or general (i.e., generic-you) can meaningfully affect how a listener interprets a message.

These experiments provide a particularly strong test of our hypothesis. In Experiment 1, we found that multiple linguistic cues of genericity (pronoun plus verb aspect) produce strong effects regarding how normative a given behavior is judged to be. In Experiment 2, we found that these results persisted when only the pronoun ('I' vs. generic-you) varied. In Experiments 3-5, we presented participants with identical content, varying only a single word ('you' or 'I') across trials, to examine the effect of pronoun in isolation. In all of our experiments, we provided

participants with minimal context. Given this, it would not have been surprising if participants had focused exclusively on the content being expressed, and how plausible it seemed. For example, in Experiments 1-2, participants may have tried to deduce the correct action from the shape of the object. In Experiments 3-5, they may have tried to consider whether a given custom may be logical in other cultural contexts. Indeed, many participants noted that they did just this in their debriefing responses; for example, one participant said that they tried to consider "If the custom sounded believable." Given that people try to use whatever world knowledge they possess to make inferences about others' behaviors, it is striking that pronoun alone affected responses above and beyond content.

It is also interesting that participants made inferences about norms. From a strictly literal interpretation, generic-you simply expresses that the information is general, extending beyond a single individual, but it does *not* say anything about which behaviors are correct or appropriate; this is an added semantic implication. It is also perfectly acceptable for people to endorse or express norms personally (e.g., "I brush my teeth in the morning and at night"; "I put cream in my coffee"). A personal endorsement could even be viewed as more powerful, because the person is tying themselves to the behavior, which could make them appear more trustworthy. And yet we found that participants were consistently swayed by the generic language.

One important question for future research concerns the extent to which generic-you influences people's judgments outside of their conscious awareness. Anecdotally, people often do not seem to notice when they have shifted from "I" to generic-you when they are speaking, and may realize only when miscommunications arise. Similarly, people seem to quickly deduce whether a "you" is generic (i.e., referring to people in general and/or the speaker herself) or canonical (i.e., referring to addressee) when in conversation with others. For example, if a

mother said “You forget the pain of childbirth once it’s over” the man in conversation with her would not infer that the ‘you’ was referring to him, specifically (Gast, Deringer, Haas, & Rudolf, 2015). In this way, it is plausible that generic-you may be processed rapidly, intuitively, and relatively effortlessly (Orvell, Ayduk, Moser, Gelman, & Kross, under revision). Consistent with this suggestion, our debriefing data indicate that the vast majority of participants (> 90%) did not mention using the change in pronoun to inform their judgments. This is suggestive that people may be influenced by generic-you, even when not explicitly aware of its presence and/or relevance. Future research should examine this question more directly and explore the extent to which such subtle shifts in pronouns operate outside of individuals’ explicit, conscious awareness.

These findings also raise several additional directions for future research. Prior research has examined how generic noun phrases (e.g., “Blickets eat vegetables”) vs. specific phrases (e.g., “This Blicket eats vegetables”) can inform people’s interpretations of how widely spread a behavior or trait is for members of a given category (in this case, Blickets) (Gelman, Ware, & Kleinberg, 2010; Rhodes, Leslie, & Tworek, 2012). However, no research has directly tested whether generic noun statements lead people to endorse normative information more highly. At times, inferring normativity from generic noun statements could be beneficial; for example, “Friends don’t let friends drink and drive” undoubtedly expresses a useful social norm. On the other hand, in some contexts, inferring normativity from such statements could have harmful consequences, leading to norms that perpetuate social inequality or stereotypes, for example, “Women take care, men take charge” (Gelman et al., 2010; Rhodes et al., 2012).

Another question for future research is when in development children may be influenced by generic-you. Children are constantly trying to piece together parts of their social world,

identifying norms that apply in the classroom, at home, or on the playground (Gockeritz, Schmidt, & Tomasello, 2014; Rakoczy & Schmidt, 2013; Schmidt & Tomasello, 2012). Research suggests that children, like adults, rely on language to help them discern new norms. For example, children are sensitive to generic noun phrases, using them to inform their judgments of group members who are not conforming to a certain behavior (Roberts et al., 2017). We also know from prior research that young children are sensitive to contexts in which generic-you is appropriate, using it to describe norms rather than preferences (Orvell et al., 2018). Given this, young children may also rely on generic-you to inform their judgments of norms.

Finally, although the magnitude of the effect of generic-you in these studies was modest, our findings raise the possibility that generic-you may affect people's interpretations of norms in more consequential contexts including health or sustainability practices (e.g. perceptions of norms regarding alcohol consumption, recycling etc.). Whereas attitudes are often formed based on life experiences, and are difficult to change because they are connected to personal beliefs, people's perceptions of norms are often easier to move around in ways that have implications for behavior (Tankard & Paluck, 2016). Indeed, interventions that highlight descriptive norms have been used effectively in the past to change people's behavior related to voting (Gerber & Rogers, 2009), environmental sustainability (Cialdini et al., 2006; Goldstein, Cialdini, & Griskevicius, 2008), and people's intentions to confront prejudice (Bennett & Sekaquaptewa, 2014). Although descriptive norm interventions can, at times, backfire (e.g., Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007), it is possible that generic-you could be leveraged to change people's perceptions of norms, and potentially their subsequent behavior, in certain contexts. Further, it is possible that the magnitude of our effects may actually increase in domains that are self-relevant.

Conclusion

In sum, these findings add to a growing body of research that illuminates how small shifts in language can serve as a window, revealing how people are processing their environment, and as a lever, that can affect how people interact with their environment, in this case, leading them to perceive certain behaviors as more normative.

CHAPTER V

A Relatively Effortless Route to Emotion Regulation?

I began by proposing that the structure of language allows people to gain psychological distance through the words they use when reflecting on the self. Here, I advance the hypothesis that adopting these linguistic shifts through usage of distanced self-talk or generic-you occurs relatively seamlessly, and thus may provide people with a less effortful route to emotion regulation compared to other cognitive emotion regulation strategies such as reappraisal.

This hypothesis is supported by the linguistic concept of "shifters" or "deixis," which are words whose meaning changes depending on who the speaker is (e.g. Jakobson, 1956). These include personal pronouns (such as 'I' and 'you') as well as other words (e.g., here, there, this, that) that situate a speaker in a given context. The hallmark of deixis is that their referents change as a function of context. For example, if Dylan asks, "Can you pass me the cookies?" and Ariana replies, "Here you go," the referent of 'you' changes, referring to Ariana first and Dylan second. By age two, most children grasp the shifting nature of pronouns—using 'me' to refer to the self and 'you' to refer to others, and understand that others do the same. Moreover, at this young age, children flexibly shift between canonical and generic uses of 'you' (Orvell et al., 2018). This sensitivity reveals an early appreciation that perspective is fluid and context-sensitive. Starting early in development and continuing into adulthood, then, individuals repeatedly and flexibly shift perspective to communicate. Further, they do so habitually, and extremely quickly—within milliseconds (Filik, Sanford, & Leuthold, 2008).

My colleagues and I suggest, therefore, that adopting different perspectives on the self is intrinsic to language use, highly practiced, and entrenched in everyday communicative practices, providing people with the ability to seamlessly shift from an immersed to a distanced perspective. The psychological distance afforded by these linguistic shifts may thus facilitate emotion regulation relatively effortlessly.

Our conceptualization of effort is largely informed by research in cognitive neuroscience, which demonstrates that traditionally studied cognitive emotion regulation strategies—most notably, reappraisal—require cognitive control, relying on fronto-parietal circuitry (i.e., the dlPFC, vlPFC, dACC, dmPFC) to effectively down-regulate affective processing in other areas of the brain, principally those that are involved in generating emotional responses (e.g., Braunstein, Gross, & Ochsner, 2017; Buhle, 2014).

Empirical evidence

Three lines of evidence provide initial support for the hypothesis that these linguistic shifts may provide people with a relatively effortless route to emotion regulation.

First, a pair of ERP and fMRI experiments illustrates that reflecting on negative emotions using distanced (vs. immersed) self-talk reduces self-reported negative affect and neural activity associated with self-referential emotional processing *without* leading to increased brain activity in regions identified *a priori* as being associated with the effortful control of emotion (Moser et al., 2017). These findings stand in contrast to a large body of research linking the efficacy of traditionally studied reappraisal strategies, including those that target enhanced psychological distance (e.g., adopt the perspective of a detached observer), to increased activation in these same cognitive control networks (for review, see Buhle et al., 2014).

Another way to examine the role of effort as it relates to distanced self-talk and generic-you is by examining how they operate under stress, which taxes the same cognitive control networks needed to successfully implement traditionally studied reappraisal strategies (Arnsten, 2009; Buhle et al., 2014). In this vein, several studies indicate that reappraisal is less effective under intensely stressful conditions (Raio et al., 2013; Shafir et al., 2015). To the extent that linguistic shifters rely less on cognitive control networks when used in the context of emotion regulation, we would not expect emotional intensity to influence their effectiveness. Consistent with this idea, the experiments described in Chapter II of this dissertation demonstrate that distanced self-talk is effective for down-regulating negative affect, even when people reflect on highly stressful experiences.

Finally, a third way to examine the issue of effort is by considering how these linguistic mechanisms operate developmentally, when cognitive control networks such as the fronto-parietal network are still developing (Anderson, 2002). Several studies indicate that young children, including those with low levels of executive function and effortful control, benefit from distanced self-talk in situations that require emotion regulation (Grenell et al., in press; White & Carlson, 2016; White et al., 2017). Further, as described in Chapter III of this dissertation, children as young as five years old spontaneously use generic-you to generalize from negative experiences when cued to make meaning (Orvell et al., 2018). Given that young children can flexibly use these linguistic mechanisms, these findings are also consistent with the possibility that using these linguistic devices to reflect on the self is a relatively effortless process that promotes emotion regulation by enhancing psychological distance.

In sum, several lines of evidence support the possibility that these linguistic devices may provide people with a relatively effortless route to emotion regulation. In this way, these findings

contribute to a growing body of research on effortless, automatic and habitual routes to self-regulation (Braunstein, Gross, & Ochsner, 2017; Fishbach & Shah, 2006; Fitzsimons & Bargh, 2004; Fujita, 2011). Future research should continue to interrogate the extent to which distanced self-talk and generic-you promote emotion regulation relatively effortlessly, and directly compare them to other emotion regulation strategies, such as cognitive reappraisal, distraction, and suppression.

Implications and Future Directions

This dissertation has highlighted the implications of shifting from an immersed to a distanced perspective through language for how people think, feel, and behave. In this way, linguistic shifts such as distanced self-talk and generic-you may function as ***levers*** that promote psychological distance and emotion regulation, potentially relatively effortlessly.

This has implications regarding when and for whom linguistic routes to emotion regulation may be beneficial. Specifically, it suggests that these strategies should promote emotion regulation under high intensity conditions, as well as for children and clinical populations, whose cognitive control networks are less efficient.

In this vein, one pressing question for future research is whether these effects generalize to clinical populations who experience persistent, elevated negative emotions, such as those with anxiety and depression. Such psychopathology is characterized by excessive self-focus and deficits in the efficiency of the cognitive control networks required to down-regulate negative affect (Johnstone et al., 2007; Mor & Winquist, 2002). Given this, linguistic distancing may provide a more amenable solution for clinical populations compared to existing cognitive emotion regulation strategies, which rely heavily on cognitive control networks that are already taxed among these groups (Erk et al., 2010; Johnstone et al., 2007).

Another direction for future research concerns how these linguistic mechanisms function in other languages and cultures. One question is whether distanced self-talk promotes emotion regulation in cultures where people adopt a more distanced perspective on the self by default (Cohen, Hoshino-Browne, & Leung, 2007). Another is whether the generic usage of "you" in other languages (e.g. Arabic, Dutch) or other means of referring to generic persons (e.g., in German, "man," in French, "on"; both can be translated as "one") promote psychological distance and meaning-making to the same extent as generic-you does, in English.

Chapter IV examined the implications of using generic-you interpersonally, specifically in normative contexts. Our findings suggest that generic-you can influence how a person interprets a given message, leading them to accept it as more normative. Future research should examine whether generic-you may also have interpersonal implications in the domains of social support and interpersonal emotion regulation. That is, in an interpersonal context, generic-you could plausibly refer to the speaker, people in general, *and* the addressee; further, information expressed with generic-you conveys that it is generalizable and normative. Given this, it is possible that this linguistic mechanism may pull the listener into the speaker's experience, leading to increased feelings of closeness or empathy. This could have implications for both how social support is provided and interpreted.

Finally, because these linguistic shifts are readily observable, they may also provide a ***window*** into when people are regulating their emotions effectively. Indeed, research has begun to explore this question with other linguistic indices of distance (Kaplow et al., 2018; Nook, Schleider, & Somerville, 2017; Pennebaker & Chung, 2007; Zell, Warriner, & Albarracin, 2012). Regarding the mechanisms discussed here, observing a child use distanced self-talk during a frustrating puzzle, or generic-you after experiencing disappointment, could provide researchers

or caregivers with insight into how a child is coping. Linguistic analyses of "big data" (e.g., Facebook, Twitter) may also provide glimpses into individuals' efforts to cope with challenging events (e.g., terrorism, financial crashes), with the caveat that identifying these linguistic mechanisms requires a consideration of context and so cannot be automated through word count programs.

Linguistic indices of distance may also serve as valuable windows in therapeutic contexts. Observing a patient reduce their egocentric perspective on the self, either by using fewer first-person pronouns or by overtly shifting to generic-you or the third person, may signal that they are adaptively coping. Evidence along these lines is beginning to emerge (Barbosa et al., 2017).

Concluding Comment

Decades of research have focused on identifying how people can effectively control their thoughts, feelings, and behaviors. This dissertation suggests that one solution may lie in the structure of language, and more specifically in the words people use to reflect on the self. In this way, linguistic routes to emotion regulation may be more basic and foundational than previously recognized.

APPENDICES

APPENDIX A

Self-Task Task Training

Script used by experimenters to train participants on the Self-Talk tasks presented in Chapter II.

One of the things we're interested in in this study is the language people use to understand their feelings. People report thinking about themselves using different parts of speech to understand their feelings. So, at different points during this task we will ask you to do this.

*At certain points, we are going to ask you to try to understand your feelings surrounding the worries you recalled by using 1st person pronouns to refer to yourself (Not out loud). Please try to understand why you feel the way you do about the worry you just recalled using the pronouns **I** and **my** as much as possible. In other words, ask yourself, "Why do **I** feel this way? What are the underlying causes and reasons for **my** feelings?"*

*During other trials, we are going to ask you to try to understand your feelings surrounding the worries you recalled using your own name to refer to yourself. Please try to understand why you feel the way you do about the worry you just recalled using your own name as much as possible. In other words, my name is **[EXPERIMENTER'S NAME]** so I would ask myself, "why does **[EXPERIMENTER'S NAME]** feel this way? What are the underlying causes and reasons for **[EXPERIMENTER'S NAME]'s** feelings?"*

W*e will indicate which strategy we would like you to use with a screen prior to the worry cue with either an "I" or your name.*

APPENDIX B

Stimuli used for the experiment in Chapter III

Table B1

Questions administered for the "Beach" story, described in Chapter III

"Beach" Story	
Story Text: Sammy is at the beach and spends a long time making a big sandcastle. Just when he/she finishes, another boy/girl comes over and steps on Sammy's sandcastle and breaks it.	
Experimenter: Now it's your turn to tell me the story. What happened to Sammy? *If child cannot retell story, reread story to child*	
Relive Condition	**Lessons Learned Condition**
Experimenter: How did Sammy feel in the beginning, when he/she was building the sandcastle? *[point to corresponding picture]*	**Experimenter:** What did Sammy learn when another boy/girl kicked over his/her sandcastle? *[point to corresponding picture]*
Experimenter: How did Sammy feel at the end, when the boy/girl kicked over his sandcastle? *[point to corresponding picture]*	**Experimenter:** What did Sammy learn from what happened?*
Exploratory Questions	
Experimenter: How do you think Sammy feels now? *(show child 5-point scale with faces from unhappy to happy)*	
Experimenter: What do you think Sammy will do next?	
Experimenter: What do you think Sammy will do next time if this happens again?	
Experimenter: What do you do when someone is mean?**	

*In Wave 1 of data collection, this question was instead: "What could people learn if something like this happened to them?"
**Only administered in Wave 2 of data collection.
Note. Reprinted from Orvell, Kross, & Gelman, 2018.

Table B2

Questions administered for the "Playground" story, described in Chapter III

"Playground" Story	
Story text: Alex is outside on the playground and sees his/her friends playing ball. He/she asks he he/she can play, too, but they say, "No, Alex, you can't play with us. We don't want to play with you."	
Experimenter: Now it's your turn to tell me the story. What happened to Alex? *If child cannot retell story, reread story to child*	
Relive Condition	**Lessons Learned Condition**
Experimenter: How did Alex feel at the beginning, when he/she was watching the other kids play? [point to *corresponding* picture]	**Experimenter:** What did Alex learn when another boy/girl told him/her he/she couldn't play? [point to *corresponding* picture]
Experimenter: How did Alex feel at the end, when the other kids said he/she couldn't play? [point to *corresponding* picture]	**Experimenter:** What did Alex learn from what happened?*
Exploratory Questions	
Experimenter: How do you think Alex feels now? *(show child 5-point scale with faces from unhappy to happy)*	
Experimenter: What do you think Alex will do next?	
Experimenter: What do you think Alex will do next time if this happens again?	
Experimenter: What do you do when someone is mean?**	

*In Wave 1 of data collection, this question was instead: "What could people learn if something like this happened to them?"
**Only administered in Wave 2 of data collection.
Note. Reprinted from Orvell, Kross, & Gelman, 2018.

REFERENCES

Adedokun, O. A., & Burgess, W. D. (2012). Analysis of Paired Dichotomous Data: A Gentle Introduction to the McNemar Test in SPSS. *Journal of MultiDisciplinary Evaluation*, *8*(17), 125–131.

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child Neuropsychology: A Journal on Normal and Abnormal Development in Childhood and Adolescence*, *8*(2), 71–82. http://doi.org/10.1076/chin.8.2.71.8724

Arnsten, A. F. (2009). Stress signalling pathways that impair prefrontal cortex structure and function. *Nature Reviews. Neuroscience*, *10*(6), 410–422. http://doi.org/10.1038/nrn2648.Stress

Barbosa, E., Silva, S., Pinto-Gouveia, J., & Salgado, J. (2017). How and when immersion and distancing are useful in emotion focused therapy for depression. *Psychotherapy Research*, 1-15.

Bates, D., Kliegl, R., Vasishth, S., & Baayen, H. (2015). Parsimonious mixed models. *ArXiv Preprint ArXiv:1506.04967*. http://doi.org/arXiv:1506.04967

Bates, D., Maechler, M., Bolker, B., & Walker, S. W. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*(1), 1–48.

Bear, A., & Knobe, J. (2016). Normality: Part descriptive, part prescriptive. *Cognition*. *167*, 25-37. http://doi.org/10.1016/j.cognition.2016.10.024

Bennett, J. E., & Sekaquaptewa, D. (2014). Setting an egalitarian social norm in the classroom: Improving attitudes towards diversity among male engineering students. *Social Psychology of Education*, *17*(2), 343–355. http://doi.org/10.1007/s11218-014-9253-y

Bernstein, A., Hadash, Y., Lichtash, Y., Tanay, G., Shepherd, K., & Fresco, D. M. (2015). Decentering and related constructs: A critical review and metacognitive processes model. *Perspectives on Psychological Science, 10*(5), 599–617. http://doi.org/10.1177/1745691615594577

Berry, R. (2009). You could say that: the generic second-person pronoun in modern English. *English Today*, *25*(03), 29–34. http://doi.org/10.1017/S0266078409990368

Bolinger, D. L. (1979). To catch a metaphor: You as norm. *American Speech*, *54*(3), 194–209. http://doi.org/10.2307/454949

Braunstein, L. M., Gross, J. J., & Ochsner, K. N. (2017). Explicit and implicit emotion regulation: A multi-level framework. *Social Cognitive and Affective Neuroscience*, *12*(10), 1545–1557. http://doi.org/10.1093/scan/nsx096

Buhle, J. T., Silvers, J. A., Wager, T. D., Lopez, R., Onyemekwu, C., Kober, H., … Ochsner, K. N. (2014). Cognitive reappraisal of emotion: a meta-analysis of human neuroimaging studies. *Cerebral Cortex*, *24*(11), 2981–2990.

Campbell-Sills, L., Simmons, A. N., Lovero, K. L., Rochlin, A. A., Paulus, M. P., & Stein, M. B. (2011). Functioning of neural systems supporting emotion regulation in anxiety-prone individuals. *NeuroImage*, *54*(1), 689–696. http://doi.org/10.1016/j.neuroimage.2010.07.041

Carlson, G., & Pelletier, F. (1995). *The generic book*. University of Chicago Press.

Cialdini, R. B., Demaine, L. J., Sagarin, B. J., Barrett, D. W., Rhoads, K., & Winter, P. L. (2006). Managing social norms for persuasive impact. *Social Influence*, *1*(1), 3–15. http://doi.org/10.1080/15534510500181459

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. *Advances in Experimental Social Psychology*, *24*, 201–234. http://doi.org/10.1016/S0065-2601(08)60330-5

Cialdini, R., & Trost, M. (1998). *Social influence: Social norms, conformity and compliance.* (D. Gilbert, S. Fiske, & G. Lindzey, Eds.) *The handbook of social psychology*. New York, NY: McGraw-Hill. http://doi.org/10.2307/2654253

Cohen, D. & Hoshino-Browne, E. (2007). Culture and the structure of personal experience: insider and outsider phenomenologies of the self and social world. *Advances in Experimental Social Psychology*. *39*, 1-67. http://doi.org/10.1016/S0065-2601(06)39001-6

Corriveau, K., & Harris, P. L. (2009). Choosing your informant: Weighing familiarity and recent accuracy. *Developmental Science*, *12*(3), 426–437. http://doi.org/10.1111/j.1467-7687.2008.00792.x

Davis, C. G., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefiting from the experience: Two construals of meaning. *Journal of Personality and Social Psychology*, *75*(2), 561–574. http://doi.org/10.1037/0022-3514.75.2.561

Davis, E. L., Levine, L. J., & Quas, J. A. (2010). Metacognitive emotion regulation: Children's awareness that changing thoughts and goals can alleviate negative emotions, *10*(4), 498–510. http://doi.org/10.1037/a0018428.Metacognitive

Dolcos, S., & Albarracin, D. (2014). The inner speech of behavioral regulation: Intentions and task performance strengthen when you talk to yourself as a You. *European Journal of Social Psychology*, *44*(6), 636–642. http://doi.org/10.1002/ejsp.2048

Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. *British Journal of Psychology*, *105*(3), 399–412.

Erk, S., Mikschl, A., Stier, S., Ciaramidaro, A., Gapp, V., Weber, B., & Walter, H. (2010). Acute and sustained effects of cognitive emotion regulation in major depression. *Journal of Neuroscience*, *30*(47), 15726–15734. http://doi.org/10.1523/jneurosci.1856-10.2010

Finkel, E. J., Slotter, E. B., Luchies, L. B., Walton, G. M., & Gross, J. J. (2013). A brief intervention to promote conflict reappraisal preserves marital quality over time. *Psychological Science*, *24*(8), 1595–1601. http://doi.org/10.1177/0956797612474938

Fishbach, A., & Shah, J. Y. (2006). Self-control in action: Implicit dispositions toward goals and away from temptations. *Journal of Personality and Social Psychology*, *90*(5), 820–832. http://doi.org/10.1037/0022-3514.90.5.820

Fitzsimons, G. M., & Bargh, J. A. (2004). Automatic self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 151-170). New York, NY, US: The Guilford Press.

Ford, B. Q., & Troy, A. S. (in press). Reappraisal reconsidered: A closer look at the costs of an acclaimed emotion regulation strategy. http://doi.org/10.1111/j.1467-8721.2008.00614.x

Fujita, K. (2011). On Conceptualizing Self-Control as more than the effortful inhibition of impulses. *Personality and Social Psychology Review*, *15*(4), 352–366. http://doi.org/10.1177/1088868311411165

Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, *90*(3), 351–367. http://doi.org/10.1037/0022-3514.90.3.351.Construal

Gaither, S. E., Chen, E. E., Corriveau, K. H., Harris, P. L., Ambady, N., & Sommers, S. R. (2014). Monoracial and biracial children: Effects of racial identity saliency on social learning and social preferences. *Child Development*, *85*(6), 2299–2316. http://doi.org/10.1111/cdev.12266

Gast, V., Deringer, L., Haas, F., & Rudolf, O. (2015). Impersonal uses of the second person singular: A pragmatic analysis of generalization and empathy effects. *Journal of Pragmatics*, 1–15. http://doi.org/10.1016/j.pragma.2014.12.009

Gelman, S. A., & Roberts, S. O. (2017). How language shapes the cultural inheritance of categories. *Proceedings of the National Academy of Sciences*, *114*(30), 7900–7907. http://doi.org/10.1073/pnas.1621073114

Gelman, S. A., Ware, E. A., & Kleinberg, F. (2010). Effects of generic language on category content and structure. *Cognitive Psychology*, *61*(3), 273-301. http://doi.org/10.1016/j.cogpsych.2010.06.001

Gerber, A. S., & Rogers, T. (2009). Descriptive social norms and motivation to vote: Everybody's voting and so should you. *Journal of Politics*, *71*(1), 178–191. http://doi.org/10.1017/S0022381608090117

Gockeritz, S., Schmidt, M. F. H., & Tomasello, M. (2014). Young children's creation and transmission of social norms. *Cognitive Development*, *30*(1), 81–95. http://doi.org/10.1016/j.cogdev.2014.01.003

Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research*, *35*(3), 472–482. http://doi.org/10.1086/586910

Grenell, A., Prager, E., Schaefer, C., Kross, E., Duckworth, A., & Carlson, S. (in press). Individual differences in the effectiveness of self-distancing for young children's emotion regulation. *British Journal of Developmental Psychology*.

Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of Personality and Social*

Psychology, *74*(1), 224–237.

Gross, J. J. (2015). Emotion regulation: current status and future prospects. *Psychological Inquiry*, *26*, 1–26. http://doi.org/10.1080/1047840X.2014.940781

Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences*, *16*(3), 174–180. http://doi.org/10.1016/j.tics.2012.01.006

Hollander, M. a, Gelman, S. A, & Star, J. (2002). Children's interpretation of generic noun phrases. *Developmental Psychology*, *38*(6), 883–894. http://doi.org/10.1037/0012-1649.38.6.883

Huang, M., Srioutai, J., & Greaux, M. (2018). Charting the speaker-relatedness of impersonal pronouns: Contrastive evidence from English, French, and Thai. In *Expressing the Self: Cultural Diversity and Cognitive Universals*.

Jakobson, R. (1957). *Shifters, verbal categories and the Russian verb*. Harvard University, Department of Slavic Languages and Literatures, Russian Language Project.

Janoff-Bulman, R., & McPherson Frantz, C. (1997). The impact of trauma on meaning: From meaningless world to meaningful life. In M. J. Power & C. R. Brewin (Eds.), *The transformation of meaning in psychological therapies: Integrating theory and practice* (pp. 91-106). Hoboken, NJ, US: John Wiley & Sons Inc.

Johnstone, T., van Reekum, C. M., Urry, H. L., Kalin, N. H., & Davidson, R. J. (2007). Failure to regulate: counterproductive recruitment of top-down prefrontal-subcortical circuitry in major depression. *Journal of Neuroscience*, *27*(33), 8877–8884. http://doi.org/10.1523/jneurosci.2063-07.2007

Kamio, A. (2001). English generic we, you, and they: An analysis in terms of territory of information. *Journal of Pragmatics*, *33*(7), 1111–1124. http://doi.org/10.1016/S0378-2166(00)00052-7

Kaplow, J. B., Wardecker, B. M., Layne, C. M., Kross, E., Burnside, A., Edlestein, R. S., & Prossin, A. R. (2018). Out of the mouths of babes: Links between linguistic structure of loss narratives and psychosocial functioning in parentally bereaved children. *Journal of traumatic stress*, *31*(3), 342-351.

Kitagawa, C., & Lehrer, A. (1990). Impersonal uses of personal pronouns. *Journal of Pragmatics*, *14*, 739–759.

Knobe, J., Prasada, S., & Newman, G. E. (2013). Dual character concepts and the normative dimension of conceptual representation. *Cognition*, *127*(2), 242–257. http://doi.org/10.1016/j.cognition.2013.01.005

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: A new depression diagnostic and severity measure. *Psychiatric Annals*, *32*(9), 509–515.

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613.

Kross, E., & Ayduk, O. (2017). Self-distancing: Theory, research, and current directions. In *Advances in experimental social psychology* (Vol. 55, pp. 81-136). Academic Press.

Kross, E., Bruehlman-Senecal, E., Park, J., Burson, A., Dougherty, A., Shablack, H., … Ayduk, Ö. (2014). Self-talk as a regulatory mechanism: how you do it matters. *Journal of Personality and Social Psychology*, *106*(2), 304–24. http://doi.org/10.1037/a0035173

Kross, E., Duckworth, A., Ayduk, O., Tsukayama, E., & Mischel, W. (2011). The effect of self-distancing on adaptive versus maladaptive self-reflection in children. *Emotion, 11*(5), 1032–9. http://doi.org/10.1037/a0021787

Kross, E., Vickers, B. D., Orvell, A., Gainsburg, I., Moran, T. P., Boyer, M., ... & Ayduk, O. (2017). Third‐person self‐talk reduces ebola worry and risk perception by enhancing rational thinking. *Applied Psychology: Health and Well‐Being*, *9*(3), 387-409.

Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2017). lmerTest package: tests in linear mixed effects models. *Journal of Statistical Software*, *82*(13).

Laberge, S., & Sankoff, G. (1979). Anything you can do. *Economy and Society*, *29*(1), 160–178.

Lagattuta, K. H., Kramer, H. J., Kennedy, K., Hjortsvang, K., Goldfarb, D., & Tashjian, S. (2015). Beyond Sally's missing marble: Further development in children's understanding of mind and emotion in middle childhood. In *Advances in child development and behavior* (Vol. 48, pp. 185-217).

Leitner, J. B., Ayduk, O., Mendoza-Denton, R., Magerman, A., Amey, R., Kross, E., & Forbes, C. E. (2017b). Self-distancing improves interpersonal perceptions and behavior by decreasing medial prefrontal cortex activity during the provision of criticism. *Social Cognitive and Affective Neuroscience*, *12*(4), 534–543. http://doi.org/10.1093/scan/nsw168

Leslie, S. J. (2015). Generics oversimplified. *Nous*, *49*(1), 28–54. http://doi.org/10.1111/nous.12039

Levin, J. R., & Lesgold, A. M. (1978). On pictures in prose. *Educational Communication and Technology*, *26*(3), 233–243. http://doi.org/10.1007/BF02766607

Maxwell, S. E. (2004). The persistence of underpowered studies in psychological research: causes, consequences, and remedies. *Psychological methods*, *9*(2), 147.

Mcnemar, Q. (1947). Note on the sampling error of the difference between correlated proportions or percentages. *Psychometrika*, *12*(2), 153–157.

McRae, K., Ciesielski, B., & Gross, J. J. (2012). Unpacking cognitive reappraisal: goals, tactics, and outcomes. *Emotion*, *12*(2), 250–255. http://doi.org/10.1037/a0026351

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, *28*(6), 487–495. http://doi.org/10.1016/0005-7967(90)90135-6

Mischel, W., & Rodriguez, M. L. (1993). The development and meaning of psychological distance. In R. R. Cocking & K. . Renninger (Eds.), *The development and meaning of psychological distance* (pp. 109–121). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: a meta-analysis. *Psychological Bulletin*, *128*(4), 638–662. http://doi.org/10.1037/0033-2909.128.4.638

Moser, J. S., Dougherty, A., Mattson, W. I., Katz, B., Moran, T. P., Guevarra, D., … Kross, E. (2017). Third-person self-talk facilitates emotional control without engaging cognitive

control: Converging evidence from ERP and fMRI. *Scientific Reports*, *3*(4519). http://doi.org/10.1038/s41598-017-04047-3

Moser, J. S., Hartwig, R., Moran, T. P., Jendrusina, A. A., & Kross, E. (2014). Neural markers of positive reappraisal and their associations with trait reappraisal and worry. *Journal of Abnormal Psychology*, *123*(1), 91–105. http://doi.org/10.1037/a0035817

Nook, E. C., Schleider, J. L., & Somerville, L. H. (2017). A linguistic signature of psychological distancing in emotion regulation. *Journal of Experimental Psychology: General*, *146*(3), 337–346.

Ochsner, K. N., Silvers, J. a, & Buhle, J. T. (2012). Functional imaging studies of emotion regulation: a synthetic review and evolving model of the cognitive control of emotion. *Annals of the New York Academy of Sciences*, *1251*, E1-24. http://doi.org/10.1111/j.1749-6632.2012.06751.x

Orvell, A., Kross, E., & Gelman, S. A. (under review). 'You' and 'I' in a Foreign Land: Examining the normative force of generic-you.

Orvell., Vickers, B., Drake, B., Ayduk, O., Moser, J., Verduyn, P., Jonides, J., & Kross, E. (under review). Re-examining reappraisal: Distanced self-talk facilitates emotion regulation under high intensity conditions.

Orvell, A., Ayduk, O., Moser, J., Gelman, S.A., & Kross, E. (under review). Linguistic shifts: A relatively effortless route to emotion regulation?

Orvell, A., Kross, E., & Gelman, S. A. (2017). How "you" makes meaning. *Science*, *355*(6331), 1299–1302. http://doi.org/10.1126/science.aaj2014

Orvell, A., Kross, E., & Gelman, S. A. (2018a). Lessons Learned: Young children's use of generic-you to make meaning from negative experiences. *Journal of Experimental Psychology: General 148*(1), 184.

Orvell, A., Kross, E., & Gelman, S. A. (2018b). That's how "you" do it: Generic you expresses norms during early childhood. *Journal of Experimental Child Psychology*, *165*, 183–195. http://doi.org/10.1016/j.jecp.2017.04.015

Park, C. L. (2010). Making sense of the meaning literature: an integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, *136*(2), 257–301. http://doi.org/10.1037/a0018301

Park, C. L., & Folkman, S. (1997). Meaning in the context of stress and coping meaning in the context of stress and coping. *Review of General Psychology*, *1*(2), 115–144. http://doi.org/10.1037/1089-2680.1.2.115

Pennebaker, J. W., & Chung, C. K. (2007). Expressive writing, emotional upheavals, and health. In H. Friedman and R. Silver (Eds.), *78712*, 263–284.

Peters, G.J. Y. (2014). The alpha and the omega of scale reliability and validity: why and how to abandon Cronbach's alpha and the route towards more comprehensive assessment of scale quality. *European Health Psychologist*, *16*(2), 56–69.

Prasada, S., & Dillingham, E. M. (2006). Principled and statistical connections in common sense conception. *Cognition*, *99*(1), 73–112. http://doi.org/10.1016/j.cognition.2005.01.003

Prasada, S., & Dillingham, E. M. (2009). Representation of principled connections: A window onto the formal aspect of common sense conception. *Cognitive Science*, *33*(3), 401–448. http://doi.org/10.1111/j.1551-6709.2009.01018.x

Raio, C. M., Orederu, T. A., Palazzolo, L., Shurick, A. A., & Phelps, E. A. (2013). Cognitive emotion regulation fails the stress test. *Proceedings of the National Academy of Sciences*, *110*(37), 15139–15144. http://doi.org/10.1073/pnas.1305706110

Rakoczy, H., & Schmidt, M. F. H. (2013). The early ontogeny of social norms. *Child Development Perspectives*, *7*(1), 17–21. http://doi.org/10.1111/cdep.12010

Rhodes, M., Leslie, S.-J., & Tworek, C. M. (2012). Cultural transmission of social essentialism. *Proceedings of the National Academy of Sciences*, *109*(34), 13526–13531. http://doi.org/10.1073/pnas.1208951109

Roberts, S. O., Gelman, S. A., & Ho, A. K. (2017). So it is, so it shall be: Group regularities license children's prescriptive judgments. *Cognitive Science*, *41*, 576-600.

Roberts, S. O., Ho, A. K., & Gelman, S. A. (2017). Group presence, category labels, and generic statements influence children to treat descriptive group regularities as prescriptive. *Journal of Experimental Child Psychology*, *158*, 19–31. http://doi.org/10.1016/j.jecp.2016.11.013

Schmidt, M. F. H., & Tomasello, M. (2012). Young children enforce social norms. *Current Directions in Psychological Science*, *21*(4), 232–236. http://doi.org/10.1177/0963721412448659

Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological science*, *18*(5), 429-434.

Shafir, R., Schwartz, N., Blechert, J., & Sheppes, G. (2015). Emotional intensity influences pre-implementation and implementation of distraction and reappraisal. *Social Cognitive and Affective Neuroscience*, *10*(10), 1329–1337. http://doi.org/10.1093/scan/nsv022

Sheppes, G., Brady, W. J., & Samson, A. C. (2014). In (visual) search for a new distraction: The efficiency of a novel attentional deployment versus semantic meaning regulation strategies. *Frontiers in Psychology*, *5*(346), 1–12. http://doi.org/10.3389/fpsyg.2014.00346

Sheppes, G., Catran, E., & Meiran, N. (2009). Reappraisal (but not distraction) is going to make you sweat: Physiological evidence for self-control effort. *International Journal of Psychophysiology*, *71*(2), 91–96. http://doi.org/10.1016/j.ijpsycho.2008.06.006

Sheppes, G., & Meiran, N. (2007). Better late than never? on the dynamics of online regulation of sadness using distraction and cognitive reappraisal. *Personality and Social Psychology Bulletin*, *33*(11), 1518–1532. http://doi.org/10.1177/0146167207305537

Sheppes, G., Scheibe, S., Suri, G., Radu, P., Blechert, J., & Gross, J. J. (2014). Emotion regulation choice: A conceptual framework and supporting evidence. *Journal of Experimental Psychology: General*, *143*(1), 163–181. http://doi.org/10.1037/a0030831

Shiota, M. N., & Levenson, R. W. (2009). Effects of aging on experimentally instructed detached reappraisal, positive reappraisal, and emotional behavior suppression. *Psychology and Aging*, *24*(4), 890–900. http://doi.org/10.1037/a0017896

Shiota, M. N., & Levenson, R. W. (2012). Turn down the volume or change the channel? Emotional effects of detached versus positive reappraisal. *Journal of Personality and Social Psychology*, *103*(3), 416-429.

Silvers, J. A., Weber, J., Wager, T. D., & Ochsner, K. N. (2015). Bad and worse: Neural systems underlying reappraisal of high-and low-intensity negative emotions. *Social Cognitive and Affective Neuroscience*, *10*(2), 172–179. http://doi.org/10.1093/scan/nsu043

Slobin, D. I. (1996). From "thought and language" to "thinking for speaking." *Rethinking Linguistic Relativity*, (February), 70–96.

Sripada, C., & Stich, S. (2006). A framework for the psychology of norms. In P. Curruthers, S. Laurence, & S. Stich (Eds.), *The innate mind: Culture and cognition* (pp. 280–301). New York: Oxford University Press.

Stewart, J. (2013). The Daily Show with John Stewart. Comedy Central.

Streamer, L., Seery, M. D., Kondrak, C. L., Lamarche, V. M., & Saltsman, T. L. (2017). Not I, but she: The beneficial effects of self-distancing on challenge/threat cardiovascular responses. *Journal of Experimental Social Psychology*, *70*, 235–241. http://doi.org/https://doi.org/10.1016/j.jesp.2016.11.008

Tankard, Margaret, E., & Paluck, Elizabeth, L. (2016). Norm perception as a vehicle for social change. *Social Issues and Policy Review*, *10*(1), 181-211.

Traxler, M., & Gernsbacher, M. A. (2011). *Handbook of psycholinguistics*. Elsevier.

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247–259. http://doi.org/10.1023/A:1023910315561

Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: a meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin*, *138*(4), 775–808. http://doi.org/10.1037/a0027600

White, R. E., & Carlson, S. M. (2016). What would Batman do? Self-distancing improves executive function in young children. *Developmental Science*, *19*(3), 419-426. http://doi.org/10.1111/desc.12314

White, R. E., Prager, E. O., Schaefer, C., Kross, E., Duckworth, A. L., & Carlson, S. M. (2017). The "Batman Effect": Improving perseverance in young children. *Child Development*, *88*(5), 1563–1571. http://doi.org/10.1111/cdev.12695

Wodak, D., Leslie, S. J., & Rhodes, M. (2015). What a loaded generalization: Generics and social cognition. *Philosophy Compass*, *10*(9), 625–635. http://doi.org/10.1111/phc3.12250

Yousafzai, M., & Lamb, C. (2013). *I am Malala: The girl who stood up for education and was shot by the Taliban*. Little Brown.

Zell, E., Warriner, A. B. Warriner, & Albarracin, D. (2012). Splitting of the Mind: When the you I talk to is me and needs commands. *Social Psychological and Personality Science*, *3*(5), 549–555. http://doi.org/10.1177/1948550611430164