Talking about belonging: Whether, why, and how people talk about social exclusion

Doctoral dissertation by Erdem B. Meral

Talking about belonging: Whether, why, and how people talk about social exclusion

Erdem Ozan Meral

ISBN 978-94-6469-257-0

Layout design and printing by: ProefschriftMaken || www.proefschriftmaken.nl

Cover design by: Dirk Verweij || @dirk_verwey

©2023 Erdem Ozan Meral, The Netherlands. All rights reserved. No parts of this thesis may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without permission of the author. Alle rechten voorbehouden. Niets uit deze uitgave mag worden vermenigvuldigd, in enige vorm of op enige wijze, zonder voorafgaande schriftelijke toestemming van de auteur.

Talking about belonging: Whether, why, and how people talk about social exclusion

Proefschrift ter verkrijging van de graad van doctor aan Tilburg University op gezag van de rector magnificus, prof. dr. W.B.H.J. van de Donk, in het openbaar te verdedigen ten overstaan van een door het college voor promoties aangewezen commissie in de Aula van de Universiteit op vrijdag 14 april 2023 om 13.30 uur

door

Erdem Ozan Meral,

geboren te Ankara, Turkije

Promotores:	prof. dr. I. van Beest (Tilburg University) prof. dr. E. van Dijk (Leiden University)
Copromotores:	dr. D. Ren (Tilburg University) dr. Y.M.J. Stráznický Van Osch (Tilburg University)
Leden promotiecommissie:	prof. dr. J. Schaafsma (Tilburg University) prof. dr. J.C.T.M. Karremans (Nijmegen Unviversity) prof. A.H.N. Celissen (Nijmegen Unviversity) dr. P. Riva (University of Milano-Bicocca) prof. dr. J.M. van der Toorn (Leiden University)

Contents

Chapter 1	Introduction	9
	What is social exclusion?	11
	What about talking about social exclusion?	13
	Why is it important to study talking about social exclusion?	13
	Previous work on talking about social exclusion	15
	Outline of the dissertation	16
PART I: Let's talk about social exclusion		
Chapter 2	The anticipated social cost of disclosing a rejection experience	23
	Study 2.1	30
	Studies 2.2 and 2.3	33
	Study 2.4	38
	Study 2.5	42
Chapter 3	Do ostracized targets truthfully communicate their emotional reactions to sources?	59
	Studies 3.1, 3.2, and 3.3	65
Chapter 4	Intensity, intent, and ambiguity: Appraisals of workplace ostracism and coping responses	87
	Study 4.1	93
	Studies 4.2.1, 4.2.2, and 4.2.3	101
PART II: Let's encourage people to talk about social exclusion		
Chapter 5	Social Ball: An immersive research paradigm to study social ostracism	113
	Study 5.1	126
	Study 5.2	129
Chapter 6	Raising awareness about social exclusion in schools through experiential learning	139
	Study 6.1	147
Chapter 7	General Discussion	165
	Summary of main findings	167

	Theoretical implications and extensions	171
	Practical implications of findings	175
	Limitations and future directions	177
	Note on collaborative efforts	179
	Concluding remarks	180
Appendix		183
	Supplementary Materials for Chapter 2	184
	Supplementary Materials for Chapter 3	190
	Supplementary Materials for Chapter 4	203
	Supplementary Materials for Chapter 5	212
	Supplementary Materials for Chapter 6	214
References		219
Acknowledgements		253
KLI Dissertation Series		260

Chapter

Introduction

Humans are social beings with a strong desire to belong (Baumeister & Leary, 1995) and a strong motivation to communicate (Gable & Reis, 2010; Rimé, 2009). The work you will read in this dissertation focuses on the intersection of these two core human qualities: belonging and communicating. More specifically, this dissertation is about whether, why, and how people talk about social exclusion, and how we can encourage researchers and practitioners to talk about social exclusion more.

In this first chapter I start by presenting the definitions of some concepts central to the research in this dissertation. Next, I offer a concise argumentation as to why I think doing research on talking about social exclusion is practically and theoretically important. Afterwards, I offer a brief overview of the past research that informed the questions I ask in this dissertation. I finalize the introduction chapter with a brief overview of the remaining chapters.

What is Social Exclusion?

Broadly defined, social exclusion is "the experience of being kept apart from others physically (e.g., social isolation) or emotionally (e.g., being ignored or told one is not wanted)" (Riva & Eck, 2016, p. ix). In this dissertation, I use the term social exclusion as an umbrella term that encompasses various experiences of being kept apart from others. Some forms of social exclusion have narrower definitions such as rejection (i.e., being told one is not wanted) or ostracism (i.e., being ignored or avoided) (Wesselmann et al., 2016). The context in which social exclusion takes place (or the field of psychology in which it is studied) also impacts how it is defined. For instance, social exclusion in the form of being shunned by peers in educational contexts is oft times referred to as peer rejection (Beeri & Lev-Wiesel, 2012). Being ignored or excluded by coworkers in organizational settings, on the other hand, is referred to as workplace ostracism (Ferris et al., 2008; Robinson et al., 2013). Reflecting the variety of these experiences, I also relied on various operationalizations of social exclusion throughout this dissertation in different empirical chapters. Even though these various forms of social exclusion have somewhat distinct definitions, these constructs are more similar than they are different. All these experiences center around a threatened sense of belonging (Baumeister & Leary, 1995) and low perceived evaluation and/or being relationally devalued by others (J. P. Gerber & Wheeler, 2014; Leary, 2001; Robertson et al., 2018). Therefore, in this introduction I use *social exclusion* as an umbrella term to capture various experiences of being kept apart from others and make

arguments on a more general level rather than on the more specific level of ostracism and rejection.

Being socially excluded negatively influences the targets of exclusion. For instance, being excluded can make targets more open to social influence such that targets may become more socially susceptible (Carter-Sowell et al., 2008) and more likely to conform (Knapton et al., 2015) or obey (Riva, Williams, et al., 2014). Being the target of exclusion can also have a negative impact on the individuals' cognitive functions by, for example, reducing working memory performance (e.g., Buelow et al., 2015; Hawes et al., 2012) and intelligent thought (Baumeister et al., 2002). Experiencing social exclusion at a young age may lead to negative effects ranging from adjustment problems at school to developing depressive symptoms in later childhood (Platt et al., 2013; Qualter et al., 2010) or later in life (Lev-Wiesel et al., 2006). Similarly, being excluded at work settings also has negative consequences for the individual and the organization at large. The excluded individual can experience increased emotional exhaustion (Thompson et al., 2019) or psychological distress (Wu et al., 2012). The organization may suffer too because targets can exhibit lower performance (Feng et al., 2019; Xia et al., 2019), engage in more counterproductive behaviors (Yang & Treadway, 2018; Zhao et al., 2013), or ultimately leave the organization (O'Reilly et al., 2014). Crucially, if individuals are socially excluded for a long period of time – i.e., chronic exclusion, they may be at risk for depression (Riva et al., 2017; Rudert et al., 2021; K. D. Williams, 2009). Taken together, these findings emphasize how social exclusion is a negative and costly experience both at an individual and an institutional level.

People try to deal with being socially excluded in various ways. Past research has identified responses that are more affiliative in nature (i.e., responses targeted at social affiliation or re-inclusion) such as increased conformity (e.g., Heerdink et al., 2015; Knapton et al., 2015), increased attention to social cues (e.g., C.-C. Lee & Chiou, 2013; Pickett et al., 2004), or higher willingness to buy products that signal group membership (e.g., J. Lee & Shrum, 2012; Mead et al., 2011); but also responses that are more antisocial in nature such as aggression (e.g., Gaertner et al., 2008; Tuscherer et al., 2016), assigning unappealing rewards or tasks to other participants (e.g., Chow et al., 2008; Warburton et al., 2006), or engaging in self-promotive behaviors that may harm others indirectly (e.g., Qi et al., 2020; Yang & Treadway, 2018). Researchers have also examined some strategies that effectively reduce the negativity associated with social exclusion such as positively appraising the

experience of being socially excluded (Sethi et al., 2013), watching favorite TV shows (Derrick et al., 2009), or eating comfort foods (Troisi & Gabriel, 2011). Thus, people respond to being socially excluded in various ways, some more social than others, and certain behaviors have the chance to dampen the negativity associated with social exclusion.

What About Talking About Social Exclusion?

Another potential way in which targets can deal with being socially excluded is talking about it. At the time of writing this dissertation there was little research specifically investigating interpersonal communication about social exclusion (i.e., talking about social exclusion). In this dissertation I present my efforts in contributing to the understanding of social exclusion by filling this gap in two distinct ways. First, I present the results of several studies addressing various research questions on talking about social exclusion. Second, I present a new tool to be used in social exclusion research alongside an example implementation with the goal to stimulate future research and applications regarding talking about social exclusion. These sections complement each other in such a way that the first section summarizes our efforts in understanding the phenomenon of interpersonal communication about social exclusion. The second section presents our contribution to both research and practice aimed at understanding and mitigating the negativity of social exclusion. I will be contextualizing each specific contribution in detail in relevant empirical chapters. Here I will only offer a concise argumentation as to why I am convinced that doing research on talking about social exclusion in general is practically and theoretically relevant.

Why is it Important to Study Talking About Social Exclusion?

As I mentioned above, social exclusion is a negative experience which, if continuous, can have long-term psychological effects on the target (Riva et al., 2017; Rudert et al., 2021). Therefore, it is critical to identify mitigating factors. Talking about social exclusion can be such a mitigating factor: past research shows that people can benefit from talking about negative emotions (Brans et al., 2014; IJzerman et al., 2018; Nils & Rimé, 2012; Zech & Rimé, 2005). Building on this evidence, I propose that talking about social exclusion constitutes a specific form of interpersonal communication that warrants

empirical attention. Let me briefly explain. Talking about social exclusion, means talking about a belonging threat that is centered around relational devaluation (J. P. Gerber & Wheeler, 2014; Leary, 2001; Robertson et al., 2018). That is, by talking about an experience of social exclusion, targets are trying to connect with an audience about their disconnection with others. They are trying to seek comfort from a relationship about being devalued in another relationship. A similar challenge arises when one is trying to talk to the source of their exclusion. In essence, a target who is trying to talk to the source of exclusion is trying to communicate with a person who disrupted the lines of communication to begin with. These situations represent a tension between connection and disconnection. By talking about their experience with others, targets of social exclusion may reap emotional (Brans et al., 2014) and social benefits (Collins & Miller, 1994), but they may also incur social costs such as negative evaluation or rejection (e.g., Caughlin et al., 2005; Derlega et al., 2004). I argue that investigating this tension between connection and disconnection is practically relevant. Any structural efforts in mitigating social exclusion can benefit from knowledge on how targets feel about disclosing having been excluded to others or understanding what motivates targets to talk (or not) about social exclusion. After all, knowing the predictors or barriers of talking about social exclusion can inform any practitioner on if, when, and how to intervene. Thus, one motivating factor behind this dissertation was the practical significance of understanding the barriers and predictors of talking about social exclusion.

I believe that the nature of social exclusion makes research on talking about it also theoretically interesting. Social psychological work focusing on social exclusion flourished over the last two decades. In this period, we have learned important things about the antecedents and consequences of social exclusion. Besides the plethora of experimental work on social exclusion (for meta-analyses on said work: Baumeister et al., 2009; J. Gerber & Wheeler, 2009; Hartgerink et al., 2015) scholars also proposed models about how the effects of social exclusion unfold over time (Temporal Need-Threat Model of Ostracism: K. D. Williams, 2009), put forth functional accounts of social exclusion (e.g., Hales et al., 2016; Kurzban & Leary, 2001), and developed theories about how individuals have internal mechanisms scanning the environment for inclusion and exclusion cues (Sociometer Theory: Leary, 2005; Leary & Baumeister, 2000). This research and theorizing helped us understand social exclusion better. But understanding a phenomenon like social exclusion would not be complete without understanding the ways in which targets deal with this experience. After all, social exclusion does not happen in a vacuum

and humans like to talk about things (Gable & Reis, 2010; Rimé, 2009). Surprisingly, however, major theories and models of social exclusion are to a large extent silent about interpersonal communication about social exclusion[1]. Thus, understanding how targets deal with social exclusion at large, and, more specifically, understanding interpersonal communication about social exclusion can contribute to theorizing on social exclusion.

Previous Work on Talking About Social Exclusion

Within the context of social exclusion, there are a number of studies suggesting that targets of social exclusion may engage in some form of interpersonal communication with the sources of their exclusion. For example, one study (Leary et al., 1998) investigated how people responded to situations where they felt hurt – the so-called exclusion emotion (Leary, 2015). In this study, Leary et al. (1998) asked participants to recall and write about incidents in which they felt hurt in an attempt to understand the antecedents and consequences of hurt feelings. Of particular interest to this dissertation, authors asked participants to report on how they responded to such episodes. The results suggested that assertive responses such as expressing anger or informing the source that one's feelings were hurt were among the most common responses. In another study, authors asked participants to engage in a role-playing scenario either simulating an argument or an ostracism incident (Zadro et al., 2005). In both experiences targets tried to partake in the ongoing conversation (by contesting in the argumentation condition and by trying to strike up a conversation in the ostracism condition). Importantly, participants in the ostracism condition gave up their efforts in joining the conversation and fell silent not long after realizing that they were being ostracized. Two other studies used text message conversations to exclude participants and recorded their responses. Results indicated that some excluded participants sent provoking text messages to try to get others to at least send them a message (Smith & Williams, 2004; K. D. Williams et al., 2002). Lastly, a recent study showed that when given the chance to communicate with other players, one third of the excluded targets wrote messages communicating their unhappiness to the sources when they were excluded in an online ball-tossing game (Zimmerman et al., 2021). Across these studies we see that some excluded targets choose to communicate with the sources of exclusion to express anger or dissatisfaction, or to provoke

1 I come back to how the findings in this dissertation can speak to some major theories and models in social exclusion literature in more detail in Chapter 7.

them in an attempt to get re-included. However, many unanswered questions remain. For instance, do targets communicate their emotions to the sources truthfully or do they misrepresent them? What factors predict a target's decision to confront the source? In the current dissertation, I raise and try to answer some of these questions with the aim of contributing to the ongoing research on communication with the sources of social exclusion.

Another area that was not covered by these prior studies is the communication with people other than the sources of exclusion. That is, talking about exclusion with other people in one's life such as friends, colleagues, or partners who are not the source of exclusion. What would the targets of exclusion think about the consequences of disclosing their experiences to others or what would make them seek support? To answer such questions, I drew from broader work suggesting that individuals talk about negative emotions and negative emotion-eliciting events with other people. For instance, people socially share emotions (Duprez et al., 2015; Rimé, 2009; Rimé et al., 2020), self-disclose personal and sensitive information to others (Baumeister & Newman, 1994; Bazarova & Choi, 2014; Collins & Miller, 1994; Omarzu, 2000), or seek support from others by disclosing things to them (Barbee et al., 1998; S. L. Williams & Mickelson, 2008). By incorporating insights from these various streams of literature, I intended to extend current understanding of social exclusion by investigating how targets talk about being excluded to other people.

Outline of the Dissertation

Behavioral science research has gone through what is a crisis for some, and an opportunity for reform for others (Wiggins & Christopherson, 2019). This crisis/reform movement came about after the realization that many seemingly robust effects in social psychology were not replicable (e.g., Open Science Collaboration, 2015). What is arguably more troubling was the lack of transparency and the use of questionable research practices (Fiedler & Schwarz, 2016; Hardwicke et al., 2022; John et al., 2012). In an attempt to overcome these issues researchers started adopting practices to increase the transparency and reproducibility of research and asked other researchers to do the same (Munafò et al., 2017; Nosek et al., 2018). Responding to these positive developments, I also tried to increase the reproducibility, replicability, and the transparency of my work. I have pre-registered the design and hypotheses of most of the studies throughout this dissertation. When possible, I conducted power analyses to decide on sample sizes, and at other times I

reported sensitivity analyses and discussed the size of obtained effects in relation to sample sizes. For all chapters, the data and the associated R scripts, the materials, and the pre-registration documents (if available) are publicly available online. Additionally, following university regulations, all studies that required data collection from participants were approved by the Ethical Review Board of Tilburg University.

The empirical chapters contain work that I could not have completed without the contributions of my co-authors. That is why in these chapters I use plural personal pronouns to highlight our combined efforts. However, since the rhetoric in the Introduction (Chapter 1) and the General Discussion (Chapter 7) are largely my own, in these chapters I use singular personal pronouns.

I present our work in five empirical chapters that are divided into two sections. The first section covers the research we conducted that explores various questions about target perceptions of talking about social exclusion (Chapter 2 and 4) and how targets choose to communicate about social exclusion (Chapter 3 and 4). Chapter 2 focuses on disclosing a rejection experience to people other than the source, and Chapter 3 focuses on sharing feelings with the sources of ostracism. Chapter 4 focuses on several coping responses that include talking to both sources and other people to cope with workplace ostracism.

In section 2, I present two other empirical chapters that focus on tools and programs that could further the research and the conversation around the topic of social exclusion. Chapter 5 introduces a new paradigm to manipulate social exclusion via an online ball-tossing game. Chapter 6 describes a training program that uses a version of the ball-tossing game in Chapter 5 to raise awareness about social exclusion in schools across the Netherlands.

Section 1: Let's Talk About Social Exclusion

As I have briefly outlined above, there are various strands of literature such as social sharing of emotions (Rimé, 2009) and self-disclosure (Omarzu, 2000) which suggest that people talk about negative emotion-eliciting events or share such information with others. Yet, social exclusion is an instance in which the target is relationally devalued (Leary, 2001) and may anticipate costs upon sharing such sensitive information with others (Caughlin et al., 2005; Derlega et al., 2004). In **Chapter 2**, we investigated (N = 1120) perceptions of targets and audiences about disclosing a hypothetical rejection experience across five studies. Targets of rejection reported similar levels of urge and reluctance to

disclose a rejection experience to others. The reluctance seems to be stemming from anticipating social costs more than social benefits. Importantly, the anticipated social costs are grounded in reality in that audiences also evaluated someone disclosing a rejection scenario (vs control) more negatively. The good news is that disclosing a rejection experience to a close other seems to resolve this conflict such that targets anticipated less social costs and more benefits of doing so.

In **Chapter 3**, we focused on talking to a different audience, namely the sources of exclusion. Social functional accounts of emotions (Keltner & Haidt, 1999; Morris & Keltner, 2000; van Kleef, 2009; van Kleef & Côté, 2018) suggest that communicating emotions have social impacts. Targets of social exclusion can truthfully communicate emotions but also alter the social influence of communication by misrepresenting their emotions. Across three studies, we investigated (N = 1058) whether targets of ostracism truthfully communicated their emotional experiences to the sources. Findings revealed that ostracized (vs included) participants felt more excluded and hurt and that some individuals changed how they felt when asked to communicate their feelings to sources. Crucially, we obtained no evidence that ostracized targets did this more or less than included targets. Indeed, the evidence based on both frequentist and Bayesian analyses converged to a large extent in providing little-to-no evidence for misrepresentation of emotions to sources.

Numerous factors may influence the extent to which people talk about social exclusion. One such factor is one's appraisal of the event (Lazarus & Folkman, 1984). The influence of targets' subjective experience of social exclusion (cf. appraisals) seems especially relevant given that social exclusion is at times defined based on the perception of the target as being excluded regardless of the "actual experience" (e.g., Ferris et al., 2008). In **Chapter 4** (N = 1251), across four studies we investigated how targets' subjective experience of social exclusion (i.e., appraisals) predict various ways of coping with a specific type of social exclusion: workplace ostracism (i.e., being ignored at work). Our results revealed that targets were more likely to minimize their experience (i.e., ignore the experience and tell themselves that it was not important) than to confront the source or to seek support from others. Crucially, however, if targets perceived the experience as more intense (and to a lesser extent as more intentional) they were more likely to talk about the event both with the source (i.e., confrontation) and with others (e.g., support seeking).

Section 2: Let's Encourage People to Talk About Social Exclusion

Besides trying to shed light on talking about social exclusion by conducting research on the topic, I also focused on projects that would help make people talk about social exclusion. Some of this work stemmed from an ongoing collaboration with a Dutch non-profit organization that aims to tackle social and societal issues. Partnered with the non-profit organization, we have developed a newer and more immersive version of a traditional online ball-tossing game used to induce feelings of exclusion and inclusion (i.e., Cyberball: K. D. Williams & Jarvis, 2006). In **Chapter 5**, we introduce this new paradigm that we developed both researchers and participants in mind. From the researchers' point of view, Social Ball offers many features (some already applied with Cyberball some novel) which are easily accessible from its graphical user interface. For the participants, we developed the paradigm to be more visually and socially immersive to provide a videogame like online environment. We discuss the features of the paradigm and present a brief tutorial to help users set up the game and configure some basic games. Additionally, we present data from two previous implementations of Social Ball and show that it effectively induces feelings of inclusion and exclusion. We also aid potential users of Social Ball in their analyses by presenting an annotated R script. In doing so, we also introduce a specific form of behavior that has received little attention in ostracism research: nonverbal communication. We did this by allowing participants to wave their hands during the game. The findings revealed that people used this form of nonverbal communication when ostracized and this behavior did not have a significant effect on self-reported need satisfaction and mood right after being excluded.

Social exclusion research can help mitigate the negative influence of social exclusion by helping us understand this phenomenon better. Another way to help mitigate this negativity is to raise awareness about it. Similar efforts to raise awareness exist for social and societal issues such as sexism (Cundiff et al., 2014; Zawadzki et al., 2012) or (cyber)bullying (Hall et al., 2009; Heath et al., 2021). In **Chapter 6**, we present a training program aimed at raising awareness about social exclusion across schools in the Netherlands. This effort was carried out by the same Dutch non-profit organization from Chapter 5. The training used a version of Social Ball to induce feelings of exclusion and used these feelings as a basis for a discussion surrounding social exclusion. In Chapter 6, we describe this training program and highlight some theoretical and experimental work to discuss its feasibility and validity. To provide a proof-of-concept, we also present some preliminary evidence based on a secondary analysis (N = 14,351) of data generated from the program. The results suggest

that participants who evaluated the program found it to be insightful, had a positive experience, and were able to apply the new knowledge to other related phenomena (e.g., prejudice).

Lastly, in **Chapter 7**, I discuss the main findings of this dissertation. I do so by, first, briefly summarizing the main findings from each chapter. Next, I move on to discussing the theoretical and the practical contributions of the research presented in this dissertation. In this section, I turn to some of the major theories on social exclusion such as the Temporal Need Threat Model of Ostracism (K. D. Williams, 2009), the Sociometer Theory (Leary, 2005; Leary & Baumeister, 2000), and also on functional accounts of social exclusion (Kurzban & Leary, 2001) to discuss how the current findings can contribute to or extend these theories. I close the general discussion by identifying the major limitations of the current dissertation and the implications for future directions.

BASED ON:

Meral, E. O., van Osch, Y., Ren, D., van Dijk, E., van Beest, I. (2021).
The anticipated social cost of disclosing a rejection experience.
European Journal of Social Psychology, 51(7), 1181-1197.
https://doi.org/10.1002/ejsp.2807

All data, analysis scripts and pre-registration files are at the Open Science Framework (https://osf.io/gntmj/).

Chapter 2

The anticipated social cost of disclosing a rejection experience

Abstract

Social rejection is a negative experience. Disclosing this experience to others may be beneficial for the target but may also entail costs if the audience reacts negatively. Across five pre-registered studies (N = 1120) we investigated how people may feel an urge to disclose a certain hypothetical rejection experience, however, depending on anticipated costs and benefits, may be reluctant to do so. The results reveal that: when considering disclosing this rejection experience (a) targets anticipate social costs rather than benefits, and audiences indeed devalue such targets who disclose that they were rejected; (b) targets feel the urge to talk about this experience yet feel reluctant to do so; and (c) targets see disclosing to a close other as less risky hence mitigating the conflicting urge and reluctance to talk. These findings suggest that people view disclosing a rejection experience as risky and perhaps not as the best coping strategy.

Social rejection is an aversive and painful experience that threatens the fundamental need to belong (K. D. Williams, 2009). While previous research documented the aversiveness of this experience, (Z. Chen et al., 2014; Wesselmann, Williams, et al., 2013; K. D. Williams, 2009), the question of how people cope with this negative event has received less empirical attention (see Eck et al., 2016 for a review of coping strategies). Potential ways of coping include engaging in positive re-appraisal of the situation (Poon & Chen, 2016; Sethi et al., 2013), enjoying comfort foods (Troisi & Gabriel, 2011), watching favored television programs (Derrick et al., 2009), or turning to religion (Aydin et al., 2010; Laurin et al., 2014). No studies to date have addressed an important social tool that could potentially help in dealing with the negative consequences of rejection: social sharing of this negative emotional experience.

Social sharing of emotions is a fairly common social tool (see Rimé, 2009 for review). Even though motivations might differ, people often talk about negative emotion eliciting events with others (Duprez et al., 2015; Rime et al., 1991). On one hand, when talking about certain emotional events, people anticipate benefits such as emotional relief (Nils & Rimé, 2012) or experience benefits such as emotional recovery (Brans et al., 2014). On the other hand, people can anticipate costs when sharing emotional events with others such as being socially rejected (Cantisano et al., 2013). Thus, when considering talking about past rejection experiences, targets similarly might anticipate both costs and benefits, and this may impact their decision to share their hurt with others or not. This potential social tool in relation to social rejection has not yet received any empirical attention. We aim to fill this gap and investigate how targets of rejection think about socially sharing a rejection experience with others.

If targets of rejection would share their experiences with others, we believe they would initially do that during the reflective stage in which the targets deal with the negativity of the experience. According to the Temporal Need-Threat Model of Ostracism (K. D. Williams, 2009), the effects of being rejected unfold in three stages; reflexive, reflective and resignation stages. Targets of rejection feel the initial hurt in the reflexive stage. They start coping and dealing with the hurt in the reflective stage and progress to the resignation stage if rejection becomes prolonged and cannot be overcome. This last stage is characterized by feelings of depression, helplessness, unworthiness and alienation (Riva et al., 2017).

Imagine a workplace setting in which an individual was rejected by their team members due to sub-optimal task performance. After the initial pain (i.e., the reflexive stage), the target may start thinking about sharing their hurt with others in the reflective stage. They might want to share their hurt and may receive emotional and social support. However, they may be hesitant to share if they think that their audience will negatively evaluate them. This presents a crucial disclosure decision for the target, the outcome of which might help with or impede their recovery from the rejection experience. This means that targets may have to evaluate costs and benefits and choose their audience strategically to receive emotional and social support.

Social Sharing of Social Rejection

The Potential Benefits of Sharing Rejection

Social support (Teng & Chen, 2012) and social connections (Aureli et al., 2020; Marinucci & Riva, 2020) are potential remedies for the negative impact of social exclusion. One way targets can tap into these benefits is by sharing their hurt with others. Previous work on social sharing of emotions (Nils & Rimé, 2012; Rimé, 2009; Rimé et al., 2020) and on self-disclosure (Afifi et al., 2017; Collins & Miller, 1994; Tremmel & Sonnentag, 2018) suggests that people anticipate and experience emotional and social benefits when talking about emotion-eliciting events and disclosing personally sensitive information. We set out to test whether these findings also translate to social rejection, a negative experience that has not been studied in this context. Targets of rejection might anticipate talking about the experience to be generally beneficial and useful, and that it might help them cope with the event (Zech & Rimé, 2005). More specifically, they could perceive emotional benefits such as emotional relief (Brans et al., 2014; Zech & Rimé, 2005) and emotional recovery from the experience (Nils & Rimé, 2012). Furthermore, there could also be social benefits such that people could reconnect and strengthen social bonds with the audience (Collins & Miller, 1994; Manne et al., 2004), or experience increased relationship quality in the form of feeling more accepted and secure (Gable et al., 2012) fulfilling the thwarted need to belong. This line of work suggests that targets may anticipate benefits when socially sharing a rejection experience. We refer to this as *the talking is good hypothesis.*

Previous work on reactions to social exclusion offer support for the idea that targets may benefit from disclosing their rejection to others. Observers can feel the target's pain after exclusion (Giesen & Echterhoff, 2018; Wesselmann et al., 2009; Wesselmann, Williams, et al., 2013), suggesting that an audience

can empathize with the target's suffering. Moreover, observers rely on available cues to make attributions as to why exclusion occurs (e.g., Petsnik & Vorauer, 2020; Rudert, Ruf, et al., 2020) and can be sympathetic towards the target if they think, for example, exclusion is unwarranted or unfair (Rudert et al., 2018). This work provides further support for the talking is good hypothesis by showing how observers can sympathize with and help the targets.

The Potential Costs of Sharing Rejection

Social rejection experiences are instances in which people are socially devalued by others (Eidelman et al., 2006; Heerdink et al., 2015; Rudert et al., 2018; Sznycer et al., 2016; Wesselmann, Wirth, et al., 2013). Therefore, we think that targets can incur costs by socially sharing their rejection experience. We turn to previous work on social sharing of emotions and self-disclosure for the various ways in which the anticipation of costs can manifest itself. Targets might feel ashamed about being rejected (Sznycer et al., 2016) and not want to share it with others (Finkenauer & Rimé, 1998; Rimé, 2009); they might anticipate to be negatively evaluated upon sharing (Caughlin et al., 2005) or they might fear future rejection (Cantisano et al., 2013; Derlega et al., 2004). This line of work supports the idea that targets may anticipate sharing their rejection experience with others to be costly. We refer to this as *the talking is bad hypothesis*.

Work on observer and target reactions to social exclusion provides support for how targets may incur costs upon disclosure. Work on observer reaction shows that observers may devalue the target and side with the sources if, for example, they think that the target violated a norm (Rudert, Ruf, et al., 2020), was excluded fairly (e.g., because of being a burden to the group, Wesselmann, Wirth, et al., 2013), or was excluded with a punitive motive (Rudert et al., 2018; Rudert & Greifeneder, 2019). Targets seem to be aware of this possibility as well because one study showed that targets experience ostracism more negatively if there are observers present at the time of exclusion (as opposed to them learning about it later, Hales et al., 2020). Authors suggest that this might be due to targets not being able to engage in any sort of reputation control if audience is there to directly witness the incident. Taken together these set of studies offer support for the talking is bad hypothesis by showing how audiences may further devalue a target.

Urge and Reluctance to Share

Above we argued that sharing a rejection experience may be associated with costs and benefits. Another issue to consider is how the act of sharing may

manifest itself. We argue that it is useful to distinguish between having the need to talk about it (Rimé, 2009; Rimé et al., 1998) and acting on this need (Afifi & Steuber, 2009, 2010; Cantisano et al., 2013; Derlega et al., 2004). That is, it may be fruitful to consider the possibility that people may on the one hand feel an urge to disclose this negative experience and on the other hand be reluctant to actually share it (Lev-Wiesel et al., 2019; Mueller et al., 2009).

Of course, one could argue that these two constructs are the opposing ends of the same construct. That is, one could argue that people who have a high urge are not reluctant, and those who have a low urge are very reluctant. This is, however, not what we anticipate. Based on insights from the social belongingness literature, we anticipate that the experience of being excluded may induce an urge in people to (re)connect to others and thus share their experience. However, when considering whether to actually engage in social sharing (i.e., to act on their urge) people may let their decision depend on the anticipated costs or benefits of the actual sharing. If so, this could mean that while the urge itself might not depend on the expected costs or benefits of sharing, the reluctance to actually share one's experience might be moderated by these anticipated cost and benefits. In terms of more traditional theories of motivation that distinguish between drives and incentives (e.g., Hull and Spence's theories on behavior: Black, 1965), one could see the urge to socially connect to others as a drive that is evoked by being excluded, while the felt reluctance to actually act on this urge would be determined by the expected incentive of the actual sharing.

Audience Closeness as a Moderator

Possible reactions of one's audience might account for the reluctance to talk. It seems plausible, however, that this process would also be dependent on one's relationship with the audience. Therefore, we also tested our reasoning in settings where we manipulated the closeness of the audience.

Individuals usually engage in social sharing of emotions with persons who are significantly close to them, such as partners, family members, or close friends (Duprez et al., 2015; Rime et al., 1991). Relationship closeness acts as a safety signal (Beike et al., 2016) and may affect to what extent targets perceive talking about rejection as costly or beneficial. Generally, individuals anticipate more supportive and less negative reactions when talking to a close other (Afifi & Steuber, 2009; Greene et al., 2012). Extrapolating from these findings, we argue that the closeness of the relationship between the rejected

target and the audience, could moderate the target's perception of whether talking about rejection will be good or bad. More specifically, we propose that targets of social rejection will anticipate higher benefits and lower costs when sharing their experience with close others, as compared to distant others, and that this in turn would impact their urge and reluctance to talk.

Overview of the Studies

Drawing from work on belonging (K. D. Williams, 2009), social sharing of emotions (Rimé, 2009), and self-disclosure (Omarzu, 2000) we propose that targets can consider disclosing their rejection experiences either as good (i.e., talking is good hypothesis) or bad (i.e., talking is bad hypothesis). In five studies we contrast these hypotheses in relation to anticipated costs/benefits and urge and reluctance to talk. Our aim is to show whether targets consider socially sharing their hurt as good or bad.

In all studies participants evaluated an individual who was transferred from one work group to another. In the rejection conditions, participants were informed that the reason for the transfer was that the team members did not want to work with the target anymore. In the control conditions, participants learned that the transfer was based on a random draw. The reason to use this rejection manipulation is that it ensured that both conditions are similar on all possible levels of comparison except the reason for the transfer. This ensures that we only manipulated social rejection, while keeping constant that the target is changing groups.

We would like to highlight that in the social rejection condition, the reason for why the rejection occurred is unclear. That is, we rely on a rejection experience with an unclear reason (i.e., no clear reason as to why the colleagues did not want to work with the target) in a performance context (i.e., the workplace) and compare this to a situation where the target is again removed from the group, but not rejected. This means that the questions posed, and the evidence presented should always be viewed from the perspective of this comparison: unclear social rejection in a work context resulting in removal from a group versus random draw resulting in removal from a group.

We investigated three main questions: (1) Do people anticipate benefits (Studies 2.1 & 2.4) and costs (Studies 2.2, 2.3 & 2.4) of talking about rejection? (2) Do people feel the urge and the reluctance to talk about rejection (Studies 2.1-.4)? Lastly: (3) How does audience closeness impact these anticipations (Study 2.5)? For all the studies, we first report the preregistered confirmatory analyses,

followed by exploratory analyses. We report all measures, manipulations and exclusions in these studies. Furthermore, for all the reported studies, we pre-registered our a priori sample size calculations (conducted by using G*Power: Erdfelder et al., 2009) to detect medium to large sized effects based on the main dependent variables for an overall 80% power, and the alpha level corrected for the number of dependent variables (See Supplementary Material for more information on all the sample size calculations and full set of measures used in all studies). We only analyzed the data after the data collection was finalized. We recruited participants online via Prolific Academic (an academic crowd sourcing website with comparable participant characteristics to the more popular alternative Amazon's MTurk: Peer et al., 2017). Each study had an independent sample (screening criteria: UK citizens, English as first language, aged 18-65 years, with approval rates > 80%, did not participate in any other study reported in this project). All data, pre-registration files and analysis scripts are available at an online repository (i.e., Open Science Framework: https://osf.io/gntmj/).

Study 2.1

Study 2.1 provided a first test of our theoretical framework, by specifically focusing on the anticipated positive outcomes of talking about being rejected and how relates to the urge to talk about it. We contrasted two competing hypotheses: According to the *talking is good hypothesis*, people would anticipate higher benefits if they would talk about what happened in the rejection condition than in the control condition. According to the *talking is bad hypothesis*, people would anticipate lower benefits if they would talk about what happened in the rejection condition than in the control condition.

Our predictions were less clear for the possible effects of the rejection manipulation on the urge to talk about what happened. The *talking is good hypothesis* would imply that the urge could be higher in the rejection condition than in the control condition, while the *talking is bad hypothesis* would suggest that the urge would be higher in the control condition than in the rejection condition. However, we also anticipated that people might always – regardless of the cause – have an urge to disclose the fact that they have transferred from their original group to a new group. If so, the urge would not be moderated by the reason (they did not want me vs random decision). Following this argument, it may thus also be expected that people would anticipate similar levels of urge across the rejection and control condition.

Method

Participants and Design

We recruited participants online via Prolific Academic who were randomly assigned to either rejection or the control condition. After excluding participants who failed both of the attention checks[2] (n = 2) and who did not complete the survey (n = 7), the final sample consisted of 220 participants (153 female, 67 male, M_{age} = 35.59, range 18-65). We conducted a sensitivity power analysis using G*Power (Erdfelder et al., 2009) with 80% power, for a two-tailed independent t-test with an alpha level of .05. Results indicated that the minimum effect size that we can detect with 220 participants would be d = 0.38.

Procedure

Participants were asked to imagine being the person in the scenario. Participants in the rejection condition (n = 110) read:

> "I was working in a group of five for a project in my firm. We had to work as a group and, in the end, give a presentation to the stakeholders. Halfway through the project we had our project evaluation meeting and we also learned that there was an opening in a new project. During the meeting, we were also asked to rate how willing we were to continue working with our team members as part of the 360-degree feedback. We were told that if somebody gets a low rating they could be transferred to the new project. However, they also told us that if everybody gets similar ratings that the manager could transfer someone to the new project randomly. After this meeting, I learned that the other people in the project did not want to work with me anymore. Therefore, the manager told me that I was assigned to the new project and the rest of the group continued working without me."

The scenario presented in the control condition (n = 110) was almost identical. The only difference was whether the colleagues wanted to work with the target and how they were transferred to another group:

> […] After this meeting, I learned that the other people in the project wanted to continue working with me. However, since everybody got similar ratings, the manager randomly picked one of us, and it was me.

2 Information on attention checks can be found in the supplementary material.

I got assigned to the new project, and the rest of the group continued working without me.

Measures

Anticipated Benefits. Following previous work on emotion sharing (Zech & Rimé, 2005) we distinguished between two types of benefits: General benefits and relief. General benefits were assessed with four items (e.g., "*Talking about the event would be meaningful*"; α = .92). Emotional relief was measured by four items (e.g., "*Talking about the event would allow me to feel better;*" α = .81; 1 = *not at all,* 7 = *very much*).

Urge to Talk. Urge was measured with three statements (e.g., "*I would have the urge to talk about what happened;"* α = .95; 1 = *not at all,* 7 = *very much*). For full set of items see Supplementary Material.

Manipulation Check. We checked our rejection manipulation with two items ("*I would feel rejected," "I would feel excluded;" r* = .83; 1 = *not at all,* 7 = *very much*)[3].

Results

Confirmatory Analyses

For all results see Table 2.1. Participants in the rejection condition anticipated to experience less relief when talking about their rejection experience than those in the control condition. We did not observe significant differences between conditions regarding perceived general benefits and the urge to talk.

Discussion

The results did not support the *talking is good hypothesis*. We did not observe on any of our dependent variables that targets anticipated more benefits in the rejection condition than in the control condition. The results partially supported the *talking is bad hypothesis*. Participants anticipated less relief about disclosing what happened to them in the rejection condition than in the control condition; we did not find statistically significant differences between the two conditions on the general benefits measurements.

3 In Study 1 we asked the manipulation check questions before the other dependent variables, whereas in Study 4 at the end of the questionnaire.

In addition, we explored whether people felt the urge to talk about their experiences. The pattern of results across benefits, relief and urge to talk did not provide support for the idea that anticipated benefits are related with the urge to talk. Indeed, we observed that participants in both the rejection and the control condition anticipated similar levels of urge to talk. That is, people anticipated wanting to talk about being removed from a group at similar levels, regardless of whether this was because they were not wanted by their original group members or because of a random draw.

Studies 2.2 and 2.3

Study 2.1 suggested that the talking is bad hypothesis is predictive of how targets of rejection perceive the consequences of sharing their experience with others. In Studies 2.2 and 2.3, we took a closer look at the underlying concepts of this hypothesis by assessing the anticipated costs associated with talking about a rejection experience. We examined this from the perspectives of both the target (Study 2.2) and the audience (Study 3.2). Study 2.2 investigated whether targets anticipate this communication to be costly, and Study 2.3 investigated whether the audience's reaction would be in line with what targets anticipated. Participants were asked about the reluctance to share the experience, feelings of shame and devaluation in response to disclosure. Given that the only difference in the method of these two studies was the perspective that the participants were asked to take, we report them together.

For both Study 2.2 and 2.3 we predicted that participants would indicate more (anticipated) reluctance to talk and more (anticipated) shame in the rejection than in the control condition. Furthermore, we predicted that the participants would report more (anticipated) negative evaluations and less (anticipated) willingness to work with the target in the rejection condition than in the control condition. In short, we expected that targets (Study 2.2) and audiences (Study 2.3) would have a similar assessment regarding the disclosure.

Table 2.1 *Descriptive and Test Statistics for All Dependent Variables in Studies 2.1 to 2.4*

		Condition					
		Control *M (SD)*	**Rejection** *M (SD)*	***df***	***t***	***d***	**95% CI**
Study 1	General benefits	4.36 (1.36)	4.19 (1.50)	215.83	0.86	0.12	[-.22, .55]
	Relief	4.29 (1.22)	3.50 (1.26)	215.10	4.90***	0.66	[.47, 1.11]
	Urge	4.72 (1.65)	4.86 (1.74)	217.40	-0.60	0.08	[-.59, .31]
	Manipulation Check	4.08 (1.64)	6.08 (1.14)	194.55	-10.51***	1.42	[-2.38, -1.63]
Study 2	Negative Evaluation	2.71 (1.59)	5.31 (1.35)	207.66	-12.91***	1.76	[-3.00, -2.20]
	Willingness to work	5.23 (1.31)	2.84 (1.30)	211.98	13.44***	1.84	[2.04, 2.74]
	Reluctance	2.94 (1.73)	5.10 (1.72)	211.97	-9.13***	1.25	[-2.61, -1.69]
	Shame	2.43 (1.51)	5.29 (1.44)	211.82	-14.20***	1.94	[-3.26, -2.47]
Study 3	Negative Evaluation	1.93 (1.24)	3.69 (1.52)	205.76	-9.34***	1.27	[-2.13, -1.39]
	Willingness to work	5.64 (1.07)	4.08 (1.31)	205.69	9.56***	1.30	[1.24, 1.88]
	Reluctance	3.26 (1.59)	5.50 (1.22)	202.33	-11.67***	1.58	[-2.26, -1.86]
	Shame	2.83 (1.72)	5.55 (1.42)	208.45	-12.66***	1.72	[-3.13, -2.29]
Study 4	Social benefits	4.41 (1.25)	2.85 (1.27)	213.00	9.08***	1.24	[1.22, 1.90]
	Relief	4.51 (1.16)	3.26 (1.37)	207.73	7.26***	0.99	[.91, 1.60]
	Costs	2.86 (1.24)	5.03 (1.12)	210.37	-13.55***	1.85	[-2.50, -1.86]
	Urge	4.76 (1.42)	4.67 (1.39)	212.75	0.42	0.06	[-.30, .46]
	Reluctance	2.94 (1.12)	4.40 (1.50)	205.27	-7.88***	1.07	[-1.83, -1.10]
	Manipulation Check	4.05 (1.71)	6.26 (1.05)	176.16	-11.39***	1.56	[-2.59, -1.83]

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

In addition to the pre-registered hypotheses, we also conducted exploratory analyses. We conducted mediation analyses in both studies. In Study 2.2 we investigated whether the relationship between the rejection manipulation and the increased reluctance to talk would be mediated by the anticipated

overall negative evaluation. In Study 2.3, we explored whether the relationship between the rejection manipulation and the reduced willingness to work with the target would be mediated by the audience's overall negative evaluation of the target.

Method

Participants and Design

We recruited participants online via Prolific Academic (with the same recruitment criteria as in Study 1). For Study 2.2 we collected data from 219 participants. After excluding the participants who failed both of the attention checks (n = 1) or with partial responses (n = 1), the final sample consisted of 217 participants (154 female, 62 male, 1 other [unspecified], M_{age} = 35.98, range 19-62). For Study 2.3, after excluding participants who failed both of the attention checks (1 participant) or had partial responses (4 participants), the final sample consisted of 214 participants (131 female, 81 male, 2 other [one nonbinary, one questioning], M_{age} = 36.71, range 18-65). In both studies participants were randomly assigned to either the rejection (n_{study2} = 108, n_{study3} = 106) or the control condition (n_{study2} = 109, n_{study3} = 108). Sensitivity power analyses revealed that for a given dependent variable we could detect an effect size of d = .38 and d = .39 for Studies 2 and 3 respectively.

Materials and Procedure

We used the same scenarios as in Study 2.1. In both Study 2.2 and 2.3 participants first read the statements about reluctance to talk, shame, negative evaluation and willingness to work on the first page and then read the statements about person perception dimensions on the second page. The order of the questions on both pages were randomized.

How Do Participants Feel About Sharing? In Study 2.2 participants reported how reluctant (*How reluctant would you feel to talk about this story?*) and ashamed (*How much shame would you feel if you were to talk about this?*) they would feel to talk about the experience. In Study 2.3, participants read the statements phrased from the perspective of a person who was hearing about the experience from the target. They were asked to anticipate how the target would feel about sharing this experience. The full set of items and questions can be found in the Supplementary Materials.

How Do Others Evaluate Sharing? In Study 2.2, participants reported on the negative evaluations they would expect from the audience after sharing he experience (*I think people would negatively evaluate me if I were to talk about*

this story) and how much the audience would be willing to work with them (*Upon hearing this, how willing people would be to work with you in a similar situation?*). All questions in this study were answered on a 7-point Likert-type scale ranging from 1 (*not at all*) to 7 (*very much*). Items from the audience perspective (Study 3) asked if the audience would negatively evaluate the target and if they would be willing to work with the target in the future. Full set of items can be found in the Supplementary Materials.

Results

Confirmatory Analyses

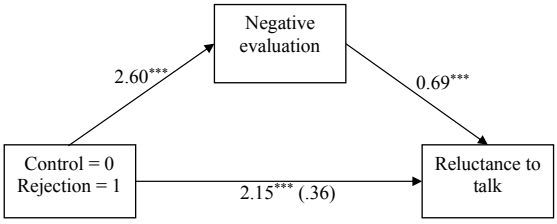
The descriptive statistics and test results of the confirmatory analyses of Study 2.2 and 2.3 are reported in Table 2.1. Targets (Study 2.2) anticipated to be evaluated more negatively, expected the audience to be less willing to work with them, felt more reluctant to talk about the episode, and indicated they would feel more ashamed in the rejection than in the control condition.

The results were similar for the audience (Study 2.3). Compared to the control condition, participants in the rejection condition evaluated the targets more negatively and were less willing to work with them. Moreover, participants in the rejection condition anticipated the targets to be more reluctant to talk and feel more shame associated with talking about the episode.

Exploratory Analyses

We ran exploratory mediation analyses to gain more insight into how devaluation based on talking about being rejected impacts targets' reluctance to talk about the issue and the audience's anticipated behavior towards the target. In Study 2.2, we investigated if the anticipation of negative evaluations mediated the relationship between the rejection manipulation and reluctance to talk. This mediation analysis (lavaan R package; 1000 bootstrap estimates), in which we dummy coded condition (0 = control, 1 = rejection) and centered the *negative evaluation* variable, revealed a significant indirect effect of condition on reluctance to talk (B = 1.79, SE = .22, 95% CI [1.38, 2.23], p < .001, see Figure 2.1).

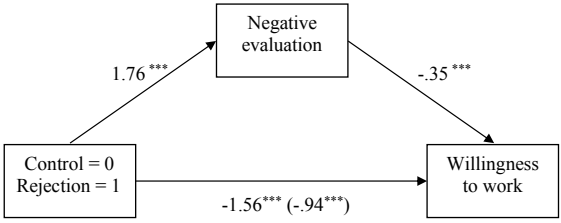
Figure 2.1 *Exploratory Mediation Analysis, Study 2.2*



Notes. Exploratory mediation analysis investigating the effect of rejection manipulation on target's reluctance to talk via perceived negative evaluation. The regression coefficients are unstandardized (the measurement scale is the same for all variables across studies). * $p < .05$ ** $p < .01$, *** $p < .001$

For the audience, we explored if the effect of rejection on the audience's willingness to work with the target was mediated by how negatively they evaluated the target. We reasoned that one potential reason for the audience being less willing to work with the target might be the negative evaluation caused by hearing the episode. The mediation analysis, in which we dummy coded the condition and centered negative evaluation, revealed a significant indirect effect of condition on willingness to work with the target through negative evaluation (B = -.62, SE = .14, 95% CI [-.92, -.36], $p < .001$, see Figure 2.2).

Figure 2.2 *Exploratory Mediation Analysis, Study 2.3*



Notes. Exploratory mediation analysis investigating the effect of rejection manipulation on audience's willingness to work with the target via negative evaluation. The regression coefficients are unstandardized (the measurement scale is the same for all variables across studies). * $p < .05$ ** $p < .01$, *** $p < .001$.

Discussion

The results revealed that targets of rejection (Study 2.2) anticipated that they would be more negatively evaluated upon sharing the episode, and their audience (Study 2.3) indeed evaluated them more negatively compared to a person who was not rejected. This (anticipated and actual) devaluation supports *the talking is bad hypothesis* and suggest that sharing an experience of being rejected might be a risky act for the target. Upon sharing, they might be devalued by their audience and get rejected again.

Supporting our predictions, targets reported that they would feel more reluctant to talk about the episode in the rejection condition. Targets' reluctance to talk parallels their anticipation of the costs. This provides additional evidence for the relationship between anticipated costs and the decision to disclose. While people might have similar levels of urge to talk about both episodes (Study 2.1), they feel more reluctant to talk about the rejection episode – i.e., the riskier endeavor.

The exploratory mediation analysis of Study 2.2 suggests that people's anticipation of the outcome of the disclosure affects how they feel about sharing the rejection experience with others. This corroborates prior findings in research on disclosure (e.g., Greene et al., 2012). The exploratory mediation analysis of Study 2.3 suggests that the negative evaluation of the audience partially mediates the relationship between rejection and the audience's willingness to work with the target. Taken together, these results suggest that devaluation plays a role in both targets' and audiences' appreciation of talking about an episode of rejection. Targets feel reluctant to share because they anticipate devaluation, and the audience is less willing to work with the targets because they indeed devalue them.

Study 2.4

Study 2.4 aimed to replicate and extend Studies 2.1 and 2.2 by simultaneously testing the *talking is good* and the *talking is bad* hypothesis. We assessed both the anticipated costs and benefits and replaced a measurement of general benefits with a more specific measurement of social benefits (e.g., feeling accepted, feeling closer to the audience). Regarding the costs, support for our reasoning and replication of Study 2.2's findings would mean that rejection information would result in higher anticipated costs, and more reluctance to talk. Regarding benefits we still had two competing hypotheses. The *talking is*

bad hypothesis would predict that participants report lower anticipated social benefits and relief associated with talking about the rejection experience, whereas the *talking is good hypothesis* would predict higher anticipated social benefits and relief associated with talking about the rejection experience.

Similar to the reasoning we outlined in Study 2.1, for urge we reasoned that people could report either less or more urge to talk in the rejection condition than the control condition[4]. Different from Study 2.1, we now also measured reluctance to talk. Simultaneously both the urge and reluctance to talk enable us to explore whether the constructs represent two ends of the same spectrum or indeed two independent constructs that tap into different conceptualizations of talking about rejection. While the former would mean that whenever urge to talk is high, reluctance to talk should be low, the latter would mean that these constructs could be high or low at the same time, independently from each other.

Method

Participants and Design

We collected data online via Prolific Academic (same recruitment criteria as in Study 2.1) and had 216 completed responses to the study. After excluding one person who failed both of the attention checks[5], the final sample consisted of 215 participants (148 female, 65 male, 2 non-binary, M_{age} = 34.14, range = 18-65). Participants were randomly assigned to either rejection (n = 108) or control (n = 107) condition. A sensitivity power analysis with an alpha of .01 revealed that for a given dependent variable we could detect an effect size of d = .46.

Materials and Procedure

We used the same rejection and control scenarios as in Study 2.1. After reading one of the scenarios, participants were presented with benefits and cost questions in one page and urge and reluctance to talk questions in another page. We randomized the order of the pages, and the order of the questions within each page. Lastly, they answered the manipulation check questions

4 We did not update our hypothesis based on the results of Study 2.1 because another difference between the two studies is the order of the manipulation check questions. In Study 2.1, we asked participants to report whether they felt excluded and rejected before all the other dependent variables. Whereas, in this study we asked the MC questions at the very end.

5 We used the same exclusion criteria and attention checks as in Study 2.3.

and some basic demographics. All items reported below were answered on a 7-point Likert-type scale (1 = *not at all*, 7 = *very much*).

Anticipated Benefits. To assess the potential social benefits one could reap from disclosing an emotion-eliciting event (Gable & Reis, 2010; Greene et al., 2012; Sprecher et al., 2013) we measured anticipated social benefits with four items (e.g., "If I were to talk about this story, I think it would make me feel accepted.", α = .88). For relief, we used the same items as in Study 1 (α = .83).

Anticipated Costs. We used questions from Study 2.2 about anticipated negative evaluation and willingness to work with the target as measures of anticipated costs. After reverse coding the willingness item, we averaged these two items into a single *anticipated costs* variable ($r_{\text{spearman-brown}}$ = .76).

Urge to Talk. We used the same items as in Study 2.1 and averaged the ratings of the three items to obtain one *urge to talk* score (α = .84).

Reluctance to Talk. Instead of using a single-item measure as in Study 2.2, we measured reluctance with three items (e.g., "I would be hesitant to share this story with other people;" α = .82).

Manipulation Check. We used the same manipulation check items as in Study 2.1 (r = .82).

Results

Confirmatory Analyses

Full results can be seen in Table 2.1. Participants anticipated more costs and felt more reluctant to talk, and also reported lower levels of relief and social benefits, in the rejection than in the control condition. Similar to the results of Study 2.3, we did not observe a significant effect of condition on participants' urge to talk.

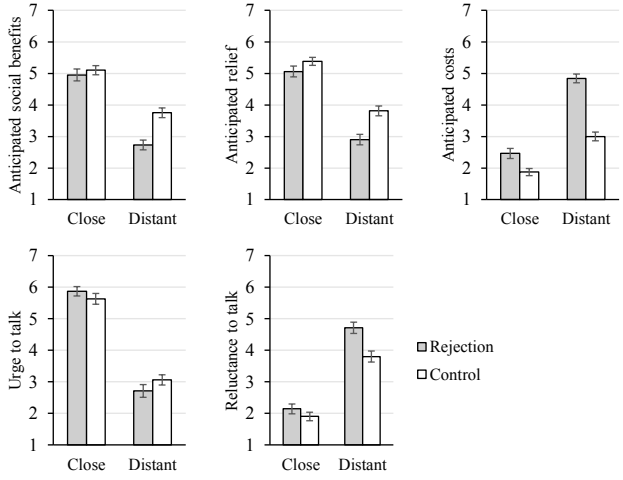
Exploratory Analyses

Above we showed that reluctance to talk is moderated and urge to talk is not. To further investigate the discrepancy in urge and reluctance to talk ratings we conducted a mixed ANOVA with the condition as the between factor and the urge and reluctance scores (i.e., sharing preference) as the within factor (see Figure 2.3). We observed significant main effects of the rejection manipulation $F(1, 426) = 60.09$, $p < .001$, $\eta_p^2 = .12$, and the sharing preference $F(1, 426)$

= 92.42, $p < .001$, $\eta_p^2 = .18$, which were qualified by a significant interaction, $F(1, 426) = 33.46$, $p < .001$, $\eta_p^2 = .073$. Pairwise comparisons revealed that people anticipated similar levels of urge and reluctance to talk in the rejection condition $t(107) = -1.12$, $p = .27$, $d = .11$. However, in the control condition, the reluctance to talk about the event was less intense than the urge to talk $t(106) = -9.07$, $p < .001$, $d = .88$.

As a further test of the relationship between urge and reluctance to talk, we also explored the correlation between these two variables. The results revealed significant negative correlation between urge and reluctance to talk, $r = -.38$, $p < .001$.

Figure 2.3 *Reluctance and Urge to Talk as a Function of the Rejection Manipulation in Study 2.4.*



Notes. Mean values of reluctance and urge to talk (with standard errors) in Study 4 as a function of the rejection manipulation. Higher values reflect more reluctance and urge to talk about the given experience.

Discussion

Results suggest that targets of rejection anticipate more social devaluation and less benefits than the people who were not rejected by their teammates. Taken together, Study 2.4 replicates the results of previous studies in that it offers further support for *the talking is bad hypothesis* but not for *the talking is good hypothesis*. We also investigated the relationship between urge and reluctance to talk. While the constructs were negatively correlated, they reacted differently to our manipulation of rejection. More specifically, while people reported similar urge to talk for both episodes, they reported more reluctance to talk about the rejection episode. This provides further evidence that, although related, these two constructs are independent from each other to a certain degree. That is, people might always have the urge to talk about a negative event such as being transferred to a new group but their reluctance to talk will depend on their assessment of costs and benefits. This particular relationship between urge and reluctance to talk and the anticipated outcomes resonates well with the understanding in traditional behavioral theories (Black, 1965) in that people have the urge (i.e., the drive) but their reluctance will depend on the costs and benefits (i.e., incentive motivation). Moreover, the similar urge and reluctance to talk ratings in the rejection condition points to a conflict between the individual's desire to share this experience with others and their simultaneous hesitation to do so.

Study 2.5

Studies 2.1 to 2.4 did not specify the relationship between the target and their audience. In Study 2.5, we included relationship with the audience as a factor and manipulated the closeness of the audience by asking people to think of an either close or a distant other to talk about the experience in the vignettes. By doing so, we investigate how audience closeness impacts people's anticipation of costs and benefits regarding sharing a rejection experience.

We studied the impact of rejection and audience closeness on (a) anticipated costs and benefits, (b) reluctance to talk and (c) urge to talk. As we argued before, the predictions for the anticipated costs and benefits and reluctance to talk should mimic each other. Audience closeness can function as a safety signal (Beike et al., 2016). This safety signal may affect the benefits and costs targets associate with sharing their experience. We expected participants to report higher anticipated social benefits and relief, and lower costs and reluctance to talk with a close than with a distant other. Aside from the predicted main effect

of audience closeness, we also expected an interaction effect between audience closeness and our rejection manipulation. More specifically, we expected the effect of audience closeness to be more pronounced for targets who had been socially rejected than for targets in the control condition. Relatedly, we expected participants to anticipate lower social benefit and relief in rejection than in the control condition, but especially so when the audience is a distant other. The rationale for these predictions is that high cost and low benefits are more pronounced and relevant for those sharing being socially rejected. Especially under these conditions, the safety signal of talking to a close other may be impactful.

Note, however, that we expected only a main effect of audience closeness on urge to talk but not a main effect of the rejection manipulation, nor an interaction effect. We did not expect a main effect of the rejection manipulation given that people reported similar levels of urge to talk across conditions in Studies 2.1, 2.3 and 2.4. We reasoned that the safety signal (Beike et al., 2016) may increase the urge to talk about being transferred to another group regardless of the reason. Therefore, we predicted only a main effect of audience closeness on urge to talk.

Method

Participants and Design

We employed a 2 (Audience closeness: close vs. distant) by 2 (Rejection: rejection vs. control) between-subjects design. We recruited participants via Prolific Academic (with the same recruitment criteria as in Study 1). After excluding the participants who did not complete the survey (n = 9) and who failed one of the attention checks[6] (n = 16), the final sample consisted of 254 participants (189 female, 64 male, 1 other, M_{age} = 33.77, range = 18-65). Participants were randomly assigned to one of the four conditions. A sensitivity power analysis with an alpha of .01 revealed that for a given dependent variable we could detect an effect size of η_p^2 = 0.045.

Materials and Procedure

Participants read the scenario that was also used in Studies 2.1, to .4, to induce the rejection manipulation. The difference was that now participants considered talking about experience to someone who was not involved in the

6 We used the same attention checks as in study 3 but this time excluded people who failed one of the attention checks based on our pre-registered exclusion criteria.

event and either really close to them (close other condition), or not so close to them (distant other condition). Subsequently, they answered questions about anticipated social benefits, relief, costs, and the urge and reluctance to talk about the experiences. We presented the anticipated social benefits, anticipated relief, and anticipated costs items in one page, and urge and reluctance to talk ratings in another page. The page order and the question order within each page were randomized. Lastly, participants answered the manipulation check questions and demographics before being debriefed.

Measures. We used the same anticipated social benefit (α = .91), relief (α = .90), costs (α = .77), urge to talk (α = .94), and reluctance to talk (α = .87) measures as in Study 2.4. However, this time the questions and the instructions were tailored to a specific audience (e.g., instead of "*I would like to talk about this*" for urge, we asked, "*I would like to talk about this with this person*" and instructed participants to answer all the questions with the person they thought of as the audience in mind).

Manipulation Checks. Right after the audience closeness manipulation we asked the participants to report the category that would best represent their chosen audience with a forced-choice question (*spouse/partner, friend, family member, colleague, acquaintance, professional [e.g., a psychologist], stranger*). After responding to all dependent variables, participants answered the same rejection manipulation check as in Study 2.4 (r_{sb} = .85). We then also asked them to report the closeness level of the imagined audience (*"How close was the person you imagined talking to?*"; 1 = *not close at all,* 7 = *very close*).

Results

Manipulation Checks

For the feelings of rejection, we observed a significant main effect of our rejection manipulation $F(1, 250) = 37.93$, $p < .001$, $\eta_p^2 = .13$. Compared to the control condition ($M = 4.31$, $SD = 1.72$), participants in the rejection condition ($M = 6.22$, $SD = 1.11$) reported feeling more rejected $t(220.17) = -10.54$, $p < .001$, $d = 1.32$. Neither the main effect of audience closeness $F(1, 250) = 4.67$, $p = .032$, $\eta_p^2 = .018$ nor the interaction term was statistically significant $F(1, 250) = 3.66$, $p = .057$, $\eta_p^2 = .014$[7].

7 One might wonder whether the effect of closeness on feelings of rejection could explain our findings in other dependent variables. We think this is unlikely for several reasons. First, we think this pattern of results was inflated given that we asked the participants to rate manipulation check ratings at the very end of the survey. Second, the interaction on

For the closeness ratings, we observed a significant main effect of the closeness manipulation $F(1, 250) = 454.67$, $p < .001$, $\eta_p^2 = .65$. In the distant other condition, participants rated the audience as less close ($M = 2.50$, $SD = 1.16$) than in the close other condition ($M = 6.57$, $SD = 0.85$), $t(236.53) = -32.12$, $p < .001$, $d = 4.02$. Unexpectedly, we observed a significant main effect of the rejection manipulation on closeness ratings $F(1, 250) = 6.38$, $p = .012$, $\eta_p^2 = .025$. Participants in the rejection condition reported that their imagined contact was more distant ($M = 4.30$, $SD = 2.39$) than the participants in the control condition ($M = 4.67$, $SD = 2.16$). The interaction term was not significant $F(1, 250) = 5.05$, $p = .025$, $\eta_p^2 = .020$.

Moreover, in the close other condition, participants mostly reported imagining close others (most selected three categories: 64% spouse/partner; 19% close friend; 17% family member) and in the distant other condition, participants reported imagining more distant categories (most selected three categories: 64% acquaintance; 21% colleague; 5% stranger).

Confirmatory Analyses

We conducted planned 2 by 2 ANOVAs for all dependent variables. We followed up each of the significant interaction effects with simple effect analyses. For the full set of descriptive statistics see Table 2.2 (for graph see figure 2.4). The pre-registered p value for main effects and interactions was .01, and for simple effects analyses we used .0025. We also conducted a sensitivity power analysis with 80% power criterion, and an alpha level of .05, $df = 1$ and the results indicated that we could detect an effect with the size of $\eta_p^2 = .027$.

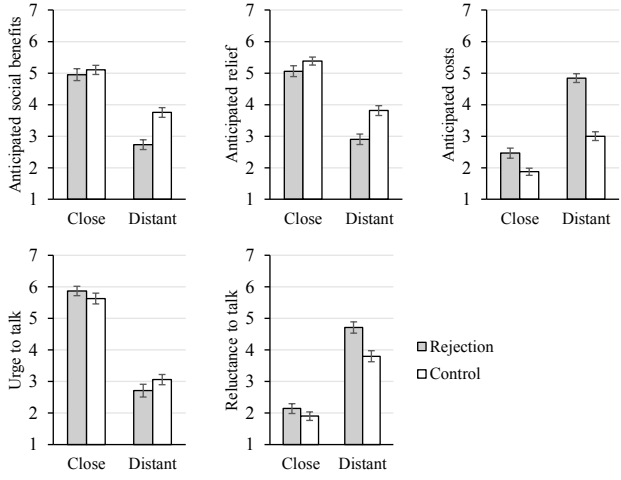
the manipulation check of rejection if anything was driven by the difference in the control condition ($M_{close} = 4.05$, $SD_{close} = 1.81$; $M_{distant} = 4.60$, $SD_{distant} = 1.55$, $t(125.02) = 1.84$, $p = .068$, $d = .32$) rather than a difference in the rejection condition ($M_{close} = 6.30$, $SD_{close} = 1.05$; $M_{distant} = 6.16$, $SD_{distant} = 1.17$, $t(122.87) = -.73$, $p = .46$, $d = .13$). Therefore, we do not think that it can explain an effect that is mainly driven by the differences in the rejection condition. Lastly, the manipulation check for rejection and closeness did not seem to be associated, $r = -.1$, $p = .10$.

Table 2.2 *Descriptive Statistics for Study 2.4.*

	Condition			
	Rejection		Control	
	Close	Distant	Close	Distant
	(*n* = 58) *(SD)*	(*n* = 67) *(SD)*	(*n* = 66) *(SD)*	(*n* = 63) *(SD)*
Social benefits	4.95 $(1.44)_a$	2.73 $(1.44)_b$	5. 01 $(1.18)_a$	3.75 $(1.23)_c$
Relief	5.06 $(1.31)_a$	2.90 $(1.36)_b$	5.38 $(1.03)_a$	3.81 $(1.24)_c$
Costs	2.46 $(1.22)_a$	4.84 $(1.14)_b$	1.87 $(.92)_c$	3.00 $(1.10)_d$
Urge	5.87 $(1.14)_a$	2.71 $(1.66)_b$	5.63 $(1.39)_a$	3.06 $(1.29)_b$
Reluctance	2.14 $(1.19)_a$	4.71 $(1.46)_b$	1.89 $(1.10)_a$	3.80 $(1.39)_c$

Note. Within each row, the means that significantly differ from each other are indicated by different subscripts ($p < .0025$).

Figure 2.4 *All Outcome Variables in Study 2.5 as a Function of Rejection and Audience Closeness*



Notes. Mean values of outcome variables (with standard errors) in Study 5 as a function of the rejection and audience closeness manipulations. Higher values indicate higher anticipated social benefits, relief and costs, and higher urge and reluctance to talk, respectively.

For *anticipated social benefits* we observed significant main effects of rejection, $F(1, 250) = 21.01$, $p < .001$, $\eta_p^2 = .078$, and closeness, $F(1, 250) = 35.79$, $p < .001$, $\eta_p^2 = .13$, qualified by an interaction effect, $F(1, 250) = 7.53$, $p = .006$,

η_p^2 = .029. As predicted, for participants who imagined talking to a close other, we observed no significant difference between rejection and control conditions t(110.30) = .62, p = .54, d = .11, 95% CI [-.33, .62]. When considering talking to a distant other, participants in the control condition anticipated significantly more social benefits than participants in the rejection condition did, t(127.90) = 4.69, p < .001, d = .82, 95% CI [.59, .1.46]. Additionally, the effect of audience closeness was larger in the rejection condition t(114.66) = -9.11, p < .001, d = 1.64, 95% CI [-2.71, -1.74] than in the control condition t(126.04) = -6.35, p < .001, d = 1.12, 95% CI [-1.76, -.93].

For *anticipated relief* we observed a main effect of rejection in the predicted direction: participants anticipated more relief in the control than in the rejection condition F(1, 250) = 17.67, p < .001, η_p^2 = .055. We also observed a main effect of closeness in the predicted direction F(1, 250) = 51.41, p < .001, η_p^2 = .17, participants anticipated more relief in the close other condition compared to the distant other condition. While the interaction was not significant F(1, 250) = 3.66, p = .057, η_p^2 = .014, but the simple effects analyses seemed in line with our predictions. The rejection manipulation did not have a significant effect on relief for participants considering talking to a close other t(107.77) = 1.49, p = .14, d = .27, 95% CI [-0.11, .74]. But participants who imagined talking to a distant other anticipated more relief when talking about the control experience than the rejection experience t(127.89) = 4.01, p < .001, d = .70, 95% CI [.46, 1.37].

For *anticipated costs* we observed main effects of rejection F(1, 250) = 91.04, p < .001, η_p^2 = .27, and closeness F(1, 250) = 34.17, p < .001, η_p^2 = .12, qualified by an interaction effect F(1, 250) = 20.57, p < .001, η_p^2 = .076. When considering talking to a close other, about the event, participants in the control condition perceived this as less costly than participants in the rejection condition, t(104.84) = -2.99, p = .004, d = .54, 95% CI = [-.98, - .20]. The effect was in the same direction for the participants who imagined talking to a distant other, but much larger, t(127.91) = -9.35, p < .001, d = 1.64, 95% CI [-2.22, -1.45]. Furthermore, as expected, the effect of audience closeness was larger in the rejection, t(117.57) = 11.20, p < .001, d = 2.01, 95% CI [1.96, 2.80] than in the control condition, t(120.83) = 6.32, p < .001, d = 1.12, 95% CI [0.78, 1.48].

For *urge to talk* we observed a main effect of closeness, F(1, 250) = 109.54, p < .001, η_p^2 = .31. In line with our predictions, participants in the close other condition reported higher levels of urge to talk (M = 5.74, SD = 1.28) than the

participants in the distant other condition (M = 2.88, SD = 1.49). However, we did not observe an effect of rejection, $F(1, 250) = 2.08$, $p = .15$, $\eta_p^2 = .008$, nor an interaction effect, $F(1, 250) = 2.89$ $p = .091$, $\eta_p^2 = .011$.

Lastly, for *reluctance to talk* we observed main effects of rejection $F(1, 250) = 15.70$, $p < .001$, $\eta_p^2 = .059$, and closeness $F(1, 250) = 69.49$, $p < .001$, $\eta_p^2 = .22$, but these were not qualified by a significant interaction effect at the .01 level, $F(1, 250) = 4.06$, $p = .045$, $\eta_p^2 = .016$. Simple effects analyses did reveal patterns consistent with our reasoning. When considering talking to a close other, no significant difference was observed between rejection and control conditions $t(116.87) = -1.18$, $p = .24$, $d = .21$, 95% CI [-.65, .17]. When considering talking to a distant other, participants in the control condition were less reluctant to talk than participants in the rejection condition, $t(127.98) = -3.60$, $p < .001$, $d = .63$, 95% CI [-1.39, -.41]. Moreover, as predicted, the effect of audience closeness was larger in the rejection condition $t(122.57) = 10.79$, $p < .001$, $d = 1.92$, 95% CI [2.09, 3.03] than in the control condition $t(117.97) = 8.60$, $p < .001$, $d = 1.52$, 95% CI [1.47, 2.34].

Discussion

The results suggest that audience closeness affects how people view talking about rejection experiences. More specifically, when being socially rejected (as compared to just being transferred to a new group), participants associated talking to a distant other with lower social benefits and higher costs. This negative effect was not found for those considering talking to a close other. While people might anticipate talking about rejection to be a costly endeavor in general, it thus seems that such concerns may be mitigated if the audience consists of close others, In those cases, the audience may serve as a safety signal (Beike et al., 2016) and make the communication appear less risky for the targets of rejection.

Study 2.5 also offers further support to the idea that urge and reluctance to talk are two distinct constructs. Participants reported a higher urge and lower level of reluctance to talk to close others compared to distant others. This suggests that they would feel a need to share these experiences with people who are close to them, and they would not feel hesitant in doing so. However, when considering talking to a distant other, the relationship between urge reluctance to talk was different. While the urge to talk was similar for those who were socially rejected as for those who were transferred to another group, the reluctance to talk was especially higher in the case of social rejection.

We would like to draw the reader's attention to the effect of the rejection manipulation on the manipulation check for closeness. Participants in the rejection condition reported that their imagined contact was more distant compared to participants in the control condition. one possible explanation for this effect is dependency regulation: People who are low (vs high) in self-esteem tend to distance themselves from others (e.g., partners or friends) in response to threats of rejection (e.g., DeHart et al., 2004; Murray et al., 2002). That is, for some of the participants in the rejection condition thinking about how their partners would negatively evaluate them may have resulted in this slight decrease in perceived closeness. Future work might consider including measures of self-esteem to test this possibility.

General Discussion

The goal of the present set of studies was to investigate whether people consider talking about social rejection experiences as good or bad. We investigated this question by comparing two instances of a person being removed from a work group: they were either rejected by their colleagues with an unclear reason or removed by a random draw. Our results more strongly support the idea that talking about rejection is considered bad: Targets of rejection anticipated devaluation from the audience upon disclosing their experience, which is in fact corroborated by our finding suggesting that audiences socially devalue targets who talk about a rejection experience. Relatedly, targets anticipated talking about a rejection experience to be less relieving and socially beneficial than talking about an experience where they are transferred to a new group but not rejected. Moreover, we present evidence suggesting that while people feel the urge to talk about rejection episodes, the anticipated costs probably make them feel reluctant to do so. This suggests a potential conflict with regards to disclosure preferences and highlights the usefulness to distinguish between a need to talk about rejection (urge) and actually talking about it (reluctance). Lastly, our results indicate that audience closeness can help people to resolve this conflict between urge and reluctance to talk. More specifically, talking to a close other makes this communication appear less costly.

Our findings contribute to knowledge on belonging and rejection in multiple ways. First, we contribute to research on rejection by investigating an interpersonal coping strategy: sharing one's hurt with others. Previous work on dealing and coping with rejection mainly focuses on intrapersonal coping strategies such as enjoying comfort foods (Troisi & Gabriel, 2011) and

watching favored television programs (Derrick et al., 2009), or psychological factors that can protect one against the negative impact of social rejection such as psychological flexibility (Waldeck et al., 2017). Some recent work points to the potential of interpersonal coping by showing that interpersonal connections can buffer against the resignation stage (e.g., Aureli et al., 2020; Marinucci & Riva, 2020). The current work contributes to this growing body of research on coping with rejection by suggesting that talking to others about being socially rejected is akin to sharing certain negative emotions such as shame (Finkenauer & Rimé, 1998) or disclosing personally sensitive information such as information about a stigmatizing condition (e.g., Cantisano et al., 2013, 2015). That is, when one thinks about sharing a social rejection experience a cost-benefit analysis is made which indicates that sharing one's hurt can be costly unless shared with a close other.

Second, we contribute to research on rejection by showing that sharing one's rejection experience with others can indeed be costly. Previous work on reactions to social exclusion show that audiences can devalue the target, or the source of exclusion based on their attributions about why the episode took place (Rudert et al., 2018; Rudert & Greifeneder, 2019). We contribute to this work by investigating a certain incident of ostracism (i.e., rejection with an unclear reason in a performance context) and focusing on anticipated devaluation and support. This line of work suggests that under certain conditions the individuals can devalue and further reject the target when, for example, they think the target is burdensome (e.g., Wesselmann, Wirth, et al., 2013) or has certain unattractive dispositions (e.g., Ren & Evans, 2020; Stavrova et al., 2021) or when they think the sources had a punitive motive (Rudert et al., 2018). We extend this line of work by showing that in the context of rejection in a work context - targets see disclosing a rejection experience more costly than disclosing an instance where they were removed from the group randomly. Additionally, audiences evaluated the targets more negatively in the rejection condition. This suggests that – in the case of rejection in a working context – such as the one that we used in this project, the audience may conclude that the rejection was warranted and devalue the target. We think this could exacerbate the negative effect that rejection has on targets in two potential ways. First, upon disclosure, targets might be further devalued and rejected. In this case, the rejection experience would only be intensified by disclosure and prolong the hurt of rejection. Second, targets might refrain from sharing their rejection experience due to the anticipated devaluation. This could especially be detrimental in cases where the target might need help in dealing with the rejection experience. If targets cannot or are afraid to disclose their experience,

they might miss out on the help that they need. We believe that in both cases, being rejected again and not receiving the necessary help, may pave the way for chronic rejection (Riva et al., 2017).

Our third main contribution is twofold, and it concerns the conflicting urge and reluctance to talk about rejection experiences and the potential way out of this conflict. Our results revealed an interesting aspect of talking about rejection with regards to urge and reluctance to talk. While participants had similar levels of urge to talk about the situations in both the social rejection and the control condition, they reported more reluctance to talk about rejection condition. The relationship between urge and reluctance to talk about rejection episodes is in line with some of the traditional theories of behavior and motivation (e.g., Black, 1965) that focused on drives and incentives. People might have an urge to talk about their experiences following social rejection (high drive) and based on anticipated costs and benefits they might feel reluctant to do so (low incentive motivation). This particular relationship poses an interesting disclosure decision as the individual has to somehow resolve the conflict between their urge and their reluctance to talk about being rejected.

Our findings highlight a potential way out of the conflict between urge and reluctance to talk: the results show that targets anticipate more benefits and less costs when talking to a close rather than to a distant other. This is in line with previous work on social sharing of emotions suggesting that people usually share their emotional experiences with close others (Rime et al., 1991) and they perceive less risks associated with the conversation if the audience is a close other (Afifi & Steuber, 2009; Greene et al., 2012). This suggests that targets of rejection could reap the benefits of talking about rejection by selecting their audience strategically. This further supports the role and importance of social connections and interpersonal coping strategies in people's well-being (Holt-Lunstad et al., 2010, 2015), especially in dealing with social rejection (e.g., Teng & Chen, 2012).

Functional accounts of exclusion suggest that exclusion serves as punishment for people who deviate from group norms (Baumeister & Leary, 1995; Hales et al., 2016; Kurzban & Leary, 2001). If rejection signals past punishment for non-normative behavior, then the target would have a clear motive to not disclose this information to others and protect their reputation. This motive to protect their reputation, in turn, may get in the way of receiving social support from others. In line with what we would expect from the functional

account, our results suggest that targets (and audiences) tended to interpret the rejection experience as evidence of devaluation.

Limitations and Future Directions

We would like to acknowledge certain limitations of the current work. First of all, in the current study we investigated how people anticipate talking about a rejection experience. In fields such as self-disclosure both real and hypothetical disclosure decisions are widely studied and considered informative (e.g., Greene, 2009; Greene et al., 2012). Indeed, both in scenario settings and in real-life disclosure decisions, one can focus on disclosure intentions. In the current paper we conceptualized these intentions as urge and reluctance to share, and the anticipated outcome of the disclosure. Given the strong relationship between behavioral intentions and actual behaviors (Ajzen, 1991), we think that the current work is a crucial first step in understanding disclosure decisions regarding social rejection experiences. At the same time, we think that future research would benefit from investigating the extent of disclosure of actual rejection experiences with paradigms such as recall tasks (Knowles & Gardner, 2008; Pickett et al., 2004). This could help one gain insight into the frequency with which people talk about rejection experiences in real life and if they see it as a potential way to deal with rejection.

In addition, there are some aspects of the current design that merit attention, most notably the control condition. In all studies, we pit our rejection condition against a control condition, in which targets were assigned to a new project, but not socially rejected. In the scenario we used, the target in the control condition was socially accepted, but randomly picked to be removed from the group. We refer to this as a control condition because the outcome (being removed from the project) was identical to the outcome in the rejection condition; the only difference was in whether the project members wanted to work with the target. This does not necessarily imply that the control condition was neutral. One could, for example, argue that the control condition was positive because the project members indicated that they wanted to work with the target. Alternatively, one could make the argument that it depicted a negative setting that describes a form of rejection albeit a more ambiguous one, and removal was more a case of a misfortune. While our intention was not necessarily to create a neutral control condition, these possible interpretations suggest that for future research it may also be worthwhile to also consider more neutral controls.

At this point it may be useful to elaborate a bit more on the control setting that we used, depicting a setting of social acceptance. One could argue that if our control condition is positive, we would not be able to tease apart whether our results are due to the positivity in the control condition or the negativity in the rejection condition. We do not see this as a potential concern for the interpretation of our findings for two main reasons. First, in our control condition participants were told that their colleagues wanted to continue working with them, but they also are told that everybody received similar ratings. This suggests that the experience of the individual was in fact similar to the rest of the group and was not overly positive. We believe that the positive interpretation would be more likely if the participant was the "most popular" as in an overinclusion situation (K. D. Williams et al., 2000). Second, the current understanding of social exclusion has been influenced by paradigms that contrast exclusion/rejection and inclusion/acceptance (examples include but not limited to: Hartgerink et al., 2015; Pickett et al., 2004, p. 20; Ruff et al., 2014; Twenge et al., 2001). The underlying assumption in such paradigms is that acceptance or inclusion is the norm (Rudert et al., 2018; Voelkel et al., 2021), and the observed effect is due to the negativity of rejection and not the positivity of acceptance. In fact, a recent study (Dvir et al., 2019) tested this question with Cyberball (an online ball tossing game widely used in research on social ostracism and acceptance, K. D. Williams et al., 2000; K. D. Williams & Jarvis, 2006) and found that the observed effect in belonging threat was attributable to the exclusion condition and not the inclusion condition – in which the participant receives the same amount of ball tosses with the rest. Thus, we think that the interpretation of our control condition as positive rather than neutral does not pose a major threat to our findings and conclusions in the current project. At the same time, we think that future work ruling out such alternative explanations (e.g., by incorporating a neutral condition) would likely contribute to the field.

One could also interpret the events in the control condition as a negative experience because the target is removed from the group regardless. This would imply that the target in the control condition can also benefit from disclosing their story to others to "clear the air." In doing so, they can let others know that they were removed from the group because of a random draw but not because they were incompetent or disliked. This suggests that the similar levels of urge to talk we observed across control and experimental conditions may have different underlying motives. In the control condition the target may be motivated by reputation control and in the rejection condition the target may be motivated by support seeking. We cannot differentiate these motives

with the current data as we only focused on anticipated emotional and social benefits. However, future research can investigate numerous other motives for a target to talk to others about their experience. For example, such research can incorporate measures to investigate whether a target's disclosure is motivated by reputation control (Vonasch et al., 2017), wanting to warn others about the source (i.e., prosocial gossip Feinberg et al., 2012), trying to figure out how to deal with the situation -i.e., instrumental support seeking (C. Carver et al., 1989) or seeking clarification to make sense of what happened (Duprez et al., 2015). By incorporating measures of such motivating factors, future research can shed further light into why targets would want to engage in the seemingly costly acts of disclosure.

We would also like to acknowledge some factors that may potentially limit the generalizability of our findings. First, we conducted our studies via a crowdsourcing platform based in the UK and limited our sample to people from the UK. In doing so, we relied on a WEIRD (Western, Educated, Industrialized, Rich and Democratic) sample that may not be representative of the world population at large (Henrich et al., 2010b, 2010a). This is relevant because previous work suggests that individuals' reaction to ostracism may be related to cultural factors such as whether one is living in independent or interdependent communities (Over & Uskul, 2016) or whether one is high or low on interdependent self-construal (Ren et al., 2013). Thus, we think future work would benefit from investigating disclosure of rejection experiences in non-WEIRD samples to see the effect of cultural factors on disclosure of rejection and increase generalizability.

The second generalizability issue concerns our choice of scenarios. Our five studies all used the same scenario of rejection in a work context (i.e., a team project). Using the same setting in all studies had some clear benefits in terms of replicability and comparison between studies. One could also reason, of course, that generalizability might be served by using different settings. For example, one might wonder whether our findings also extend to being rejected in more social settings (e.g., being ignored at a party). Indeed, we feel that this would be a valuable path for future research. Such research could then also be used to address potential reasons for rejection.

In the project we used scenarios where rejection happened at work settings, yet we did not specify the reason why targets were rejected. Due to the work setting, participants might have inferred that the reason for rejection was work related and thereby possibly related to the target's incompetence. Would, then,

being rejected at a party impact one's disclosure preferences differently? This question is important given that previous work suggests that being rejected for a certain reason is associated with devaluation in relevant domains (e.g., Riva et al., 2016). Thus, we believe that future work can investigate various reasons for rejection (e.g., competence vs sociability) and inspect how they impact the targets' disclosure preferences and decisions. That being said, we investigated if targets would be evaluated differently on these core dimensions when the reason for rejection was unclear (see Supplementary Materials for more details on materials and results of this exploratory analysis). We asked participants to indicate how they think they would be evaluated as targets in Study 2.2 (or how they would evaluate the target from the audience perspective in Study 2.3). Participants anticipated more negative evaluations in terms of competence, sociability, and morality in the rejection than in the control condition. Similarly, the audience evaluated someone who was rejected more negatively on all dimensions compared to someone who was not rejected. That is, the ambiguous reason for rejection resulted in the anticipation of negative evaluation (and negatively evaluating the target) in all three dimensions. Future research can incorporate specific reasons for rejection (e.g., negative evaluation on competence or sociability) and investigate their impact on disclosure decisions.

One could see the choice of using a general audience in Studies 2.1 to 2.4 (i.e., talking to others about rejection) as a potential limitation. However, we have purposefully made this choice to study a general effect. Moreover, with rejection (and other similar mistreatment constructs such as incivility or bullying) it is not difficult to imagine one having to talk to persons other than close others. For example, in case of being rejected in the workplace, if one needs instrumental support (support aimed at altering the situation at hand: C. Carver et al., 1989) from their colleagues they may need to talk to people that are not close to them (e.g., other colleagues with a similar experience, HR departments and so on). We think that the effect we observed in the current study with a general audience speaks to such situations and highlights the importance of current findings.

We designed the current set of studies to investigate if targets deem sharing a rejection experience as good or bad and we showed that they consider it as bad rather than good. We did not design the current set of studies to test why this is the case. Future studies should investigate why people feel reluctant to talk about rejection experiences. Our exploratory mediation analyses in Studies 2.2 and 2.3 shed light on a possible reason: negative evaluation. It is possible

that targets are more reluctant to talk about their experience because they fear negative evaluation. Likewise, it is possible that audiences are less inclined to work with the targets because they negatively evaluate them. These conclusions are based on exploratory analyses and future research is needed to clarify the role of negative evaluation. Understanding why people are hesitant to share their hurt is an avenue for future research.

There are individual differences in sensitivity to rejection which can have an impact on the extent to which targets anticipate costs or benefits and are reluctant to share their hurt with others. For example, people who are high on rejection sensitivity (Downey et al., 2004), experiential avoidance (Tyndall et al., 2018; Waldeck et al., 2020) or social anxiety (Zadro et al., 2006) might be more likely to ruminate about the experience, anticipate more negative outcomes and less likely to share their pain with others. In future studies this potential influence can be investigated and controlled for when exploring the social sharing of rejection experiences.

Conclusion

Targets who consider sharing their rejection experiences with others might feel like they are stuck between a rock and a hard place: If they do not share, they will not be able to receive benefits, and if they do share, they might be rejected again. People might see talking to close others as a way out. In the current research we investigated if people consider disclosing a rejection episode to others as good or bad. By relying on a set of vignettes manipulating rejection in a work context, we found that people anticipate talking about rejection to be a costly endeavor (compared to talking about being removed from a group based on a random draw). Even though people seem to have an urge to talk about rejection, they feel reluctant to do so. Selecting a close other as an audience may mitigate these concerns and thereby provide a remedy to the conflicting needs and concerns of those who are socially rejected.

BASED ON:

Meral, E. O., Ren, D., van Osch, Y., van Dijk, E., van Beest, I. (2022).
Do targets of ostracism truthfully communicate their emotional reactions to sources?
Manuscript submitted for publication.

All data, analysis scripts and pre-registration files are at the Open Science Framework (https://osf.io/7vpqu/?view_only=672fa997107847b7889eb514fab8a87d).

Chapter 3

Do ostracized targets truthfully communicate their emotional reactions to sources?

Abstract

Ostracism triggers negative emotions such as sadness, anger, and hurt feelings. Do targets of ostracism truthfully share their emotions with the sources of ostracism? Drawing on past research on social-functional accounts of emotions and interpersonal emotion regulation, we proposed the possibility that targets may misrepresent their emotions (i.e., gaming emotions). We conducted three experiments (N = 1058; two pre-registered) using an online ball-tossing game, in which participants were randomly assigned to be included or ostracized. Consistent with the literature, we found that ostracized individuals were more hurt, sad, and angry than included individuals. However, we found little and inconsistent evidence that ostracized (vs included) individuals misrepresented their emotional reactions to the sources. Further, Bayesian analyses offered more support against the gaming emotions hypothesis. These findings suggest that targets of ostracism truthfully communicated their social pain to the sources.

Imagine that you are playing Frisbee with two other people at a park. At one point, they stop throwing you the disk, excluding you from their game. You may feel hurt, sad, or even angry. If you had an opportunity to express your feelings to the two other players, what would you say? Would you disclose your feelings truthfully or intentionally misrepresent them?

Ostracism, even brief and innocuous instances, can elicit painful feelings, sadness, anger, and threaten the basic human needs (Baumeister & Leary, 1995; Leary, 2015; Nezlek et al., 2012; K. D. Williams, 2007). The literature on ostracism has focused on the negative impact of the event on targets; yet relatively little is known about how targets communicate their emotional reactions to the source of ostracism. Emotion communication following ostracism can be functional as signaling social pain to the source may influence sources' subsequent treatment of the targets (e.g., see social-functional accounts of emotions: van Kleef & Côté, 2018, 2022). In this research, we sought to examine how targets of ostracism express their emotions to sources. Specifically, we evaluated the possibility that targets may intentionally misrepresent their emotions (referred to as gaming emotions; Andrade & Ho, 2009) when they were given a chance to express their emotions to sources.

Interpersonal Communication is a Possible Response to Ostracism

People respond to ostracism in various ways. Some responses are intrapersonal in nature such as prayer (Aydin et al., 2010), watching TV shows (Derrick et al., 2009) or eating comfort foods (Troisi & Gabriel, 2011). Other responses are interpersonal in nature such as aggression (Ren et al., 2018), seeking reaffiliation (Maner et al., 2007), or withdrawing from social interactions (Ren et al., 2016). Despite the extensive literature on people's responses to ostracism, there has been surprisingly little attention to target-source interpersonal communication as a viable option. Do targets of ostracism communicate their feelings to the sources of ostracism?

Several areas of research suggest that people may talk about their emotions or emotion eliciting events with others such as support seeking (e.g., Nagai, 2015; S. L. Williams & Mickelson, 2008), self-disclosure (e.g., Pasupathi et al., 2009; D. I. Tamir & Mitchell, 2012) and social sharing of emotions (Gable & Reis, 2010; Rimé, 2009). People talk about their emotions for different reasons (Duprez et al., 2015; Pauw et al., 2018, 2019). One reason is

interpersonal emotion regulation— the regulating of one's emotions through social contacts with or without an active response from the communication partner (e.g., Barthel et al., 2018; W. C. Williams et al., 2018; Zaki & Williams, 2013). These areas of research suggest that people talk about their emotions or emotion-eliciting events with others for an array of reasons.

People Truthfully Communicate Emotions

How do targets of ostracism communicate their emotions? It is possible that sharers may be motivated to truthfully communicate their emotional states. For instance, if people communicate emotions with certain goals (e.g., eliciting support) then doing so without misrepresenting these emotions can help them achieve these goals. Previous work shows that expressing one's emotions (instead of suppressing them) can help one receive support, help build new relationships and increase intimacy in existing relationships (Graham et al., 2008). In fact, not communicating emotions truthfully may hinder one's goal of sharing the emotion. For instance, if one shares their emotions with the goal of regulating them, not sharing truthfully (e.g., suppressing) may hinder this goal (e.g., the audience thinking that one is not sad or angry) (e.g., Larsen & English, 2014). Moreover, individuals may be motivated to communicate their emotions truthfully regardless of the outcome. For example, one may be internally motivated to respond to situations honestly (Murphy et al., 2020) or they may want to maintain a positive self-concept as someone who is honest (Mazar et al., 2008) also when communicating emotions. In sum, these studies suggest that individuals may be motivated to communicate their emotions to others truthfully.

People Game Emotions

At the same time, it is possible that individuals may game emotions. Two findings from past work support this possibility. First, previous research suggests that people intentionally misrepresent emotions to achieve instrumental goals. Social-functional accounts of emotions (e.g., Keltner & Haidt, 1999; Morris & Keltner, 2000; van Kleef, 2009; van Kleef & Côté, 2018) suggest that emotional expressions have social impacts. That is, a communicated or expressed emotion might impact the judgment or behaviors of the observers. To influence others, one may choose to communicate one's emotions truthfully. However, past studies have shown that people regularly engage in strategic communication of

emotions – i.e., gaming emotions (English et al., 2018; Geddes & Lindebaum, 2020; Hayes & Metts, 2008), to either attain positive outcomes (Andrade & Ho, 2009; Sasse et al., 2018; van Dijk et al., 2018) or avoid negative outcomes (e.g., English et al., 2018; van Osch et al., 2019). For example, participants over-report their anger (reporting higher levels of anger than they initially report feeling) in order to receive better payoffs in a negotiation (Andrade & Ho, 2009). The participants in this study not only overreported their anger, but they also reported doing this to strategically to obtain better payoffs when prompted about the reason for overreporting. Similarly, another study investigated how bargainers communicate anger and disappointment (van Dijk et al., 2018). Their findings revealed that participants overreported disappointment more so than anger when the other party is in a high-power position; and that they overreported anger when they are in a powerful position themselves. It was also investigated whether participants who express pride due to achievement in varying domains (e.g., academically or sports) would downplay their pride expressions strategically (van Osch et al., 2019). Results revealed that participants inhibited both verbal and nonverbal expressions of pride when the domain of the achievement was relevant to the audience. Another study revealed that participants were downplaying their sadness and fear to an antagonistic outgroup in an intergroup conflict situation (Sasse et al., 2018). In this study, authors argue that participants may have downplayed to not lose face given that expressing high levels of sadness and fear to an outgroup could be taken as an admission of weakness. Taken together, these findings suggest that across a variety of contexts people communicate emotions strategically -i.e., game emotions.

Second, past studies suggest that individuals may try to alter how they feel before communicating their feelings. For example people may try to increase their level of anger before a confrontational interaction (M. Tamir et al., 2008; M. Tamir & Ford, 2012) or increase their level of fear when they are motivated by an avoidance goal (M. Tamir & Ford, 2009). Such contra-hedonic emotion regulation (i.e., increasing negative emotions or decreasing positive emotions) is a potential regulatory response and people engage in it to the extent that they think feeling that emotion would have utility (Eldesouky & English, 2019; Riediger et al., 2009; M. Tamir, 2016; M. Tamir et al., 2013). This prior work on instrumental emotion regulation focuses on the regulation of emotions that one feels. This literature suggests that if one believes in the utility of communicated emotions, they may try to regulate their emotions in the desired direction before communicating them. As a result, communicated

emotions deviate from the actual emotional responses people experienced initially, supporting the possibility that people game emotions.

Exaggerating or Downplaying?

We propose that ostracized individuals (relative to those that are included) may strategically misrepresent their emotions for various reasons. Concretely, targets of ostracism may exaggerate their emotions or downplay them (henceforth referred to as the exaggeration and downplaying hypotheses respectively). In the current research, we tested these two competing hypotheses by focusing on three specific emotions that are well-established outcomes of being ostracized: hurt-feelings (Leary, 2015; Leary et al., 1998), sadness, and anger (Çelik et al., 2013; Chow et al., 2008; Tuscherer et al., 2016).

The Exaggeration Hypothesis. To the extent that targets have instrumental motivations or believe that exaggerating their emotions would help goal attainment, they can exaggerate negative emotions (M. Tamir, 2009). For example, targets may exaggerate their anger. Displaying anger has been shown as a way to regain control (Lemay et al., 2012), make the other parties concede (van Kleef et al., 2004), be ascribed more power (Tiedens, 2001), signal that a certain outcome was unjustified (Wubben et al., 2011) or that such an outcome happened outside of one's control (Berkowitz & Harmon-Jones, 2004). Such functions of anger may be appealing to targets of ostracism who experience a low sense of control or wish to regulate the sources' behavior in the subsequent interaction.

Targets may also exaggerate their sadness and hurt feelings. These two emotions may elicit empathy and other-concern in the source (Batson et al., 2007; Lemay et al., 2012; Sinaceur et al., 2015) and subsequently increase the possibility of sources' inclusive behavior. Additionally, sadness signals that targets are in need of help (Graham et al., 2008; Small & Verrochi, 2009) and hurt feelings may evoke feelings of guilt in the sources (Overall et al., 2014); both functions may increase target's future chances of re-inclusion.

The Downplaying Hypothesis. It is also possible that targets of ostracism downplay their emotions to the sources. For example, targets may be concerned that sources might instigate reciprocal anger (Lelieveld et al., 2012; Lemay et al., 2012). Similarly, targets might fear that others might dislike and further ostracize them if they communicate their anger (van Beest et al., 2008). Additionally, targets may believe that communicating anger might negatively impact their already poor relationship with the sources (Sanford & Rowatt,

2004). Finally, if targets wish to avoid a social conflict, they may choose to downregulate their anger in service of this goal (English et al., 2018).

Turning to sadness and hurt, targets may downplay these two emotions to avoid appearing weak (Spokas et al., 2009). Similarly, targets may downplay their sadness to indicate that they do not want support (Sasse et al., 2018). Additionally, targets may downplay their sadness and hurt out of self-presentational concerns to "appear fine" (Bernstein et al., 2013). After all, targets may not want the other parties to think that they are weak and are again candidates for ostracism in future interactions.

Studies 3.1, 3.2, and 3.3

We tested the two competing hypotheses regarding the effect of ostracism on gaming emotions in a series of three experiments. The gaming hypotheses (i.e., downplaying and exaggeration) concern the gaming of emotions for ostracized participants (compared to included participants) when they think that their answers are being communicating to other players (compared to reporting answers privately).

To manipulate ostracism, we used an online ball-tossing game: Cyberball (K. D. Williams & Jarvis, 2006) and another online ball-tossing game which we developed to model after the structure of Cyberball but has improved visual features (in Study 3.3). In both games, the participant played with two or three other players that were in fact computer-controlled avatars. Our reasons for choosing this paradigm are twofold. First, it is a well-validated experimental paradigm that has been widely adopted as a manipulation of ostracism (for a meta-analysis of Cyberball studies, see: Hartgerink et al., 2015) and has been successfully used in prior research involving communication between participants (Zimmerman et al., 2021). Second, past studies on gaming emotions used controlled experimental paradigms in which participants play multiple rounds of a computer game and then communicate their emotions via self-report to their interaction partners (Andrade & Ho, 2009; van Dijk et al., 2018). Building on these past studies, we sought to test the possibility of gaming emotions using the well-controlled paradigm Cyberball.

We adapted the design used in past studies on gaming emotions (Andrade & Ho, 2009; van Dijk et al., 2018) to an ostracism context. Specifically, in all studies participants were told that they would play two rounds of the online

ball-tossing game with the same players. The first round of ball game served as the manipulation of ostracism: participants were included or ostracized. To support our cover story, all participants played a second round of ball game in which they were all included in the ball-tossing game. Between the two rounds, we measured participants' actual emotional responses and the responses they provided to be shared with other players.

For outcome variables, we focused on the three negative emotions: anger (Studies 3.1, 3.2, 3.3), sadness (Studies 3.1, 3.2, 3.3), and hurt (Studies 3.2, 3.3). We focused on these three emotions because all three are well established emotional responses to ostracism (Çelik et al., 2013; Leary, 2015; Leary et al., 1998)[8]. We also explored the possibility that people game "needs" similarly as they would game emotions. Past work has established that ostracism lowers targets' satisfaction (or increases need threat) with four basic needs of belonging, control, self-esteem and meaningful existence (K. D. Williams, 2007, 2009). As these are the main outcome variables ostracism researchers assess, we explored whether people gamed their need threat to the sources of the ostracism (vs. inclusion).

All three studies are methodologically similar; therefore, we report their methods together and highlight the differences where needed. For full set of items and a more detailed breakdown of all the procedures see Supplementary Materials. We report the results of each study separately. For each study in the project, we first clarify our research question and pre-registered predictions (if any); and then present the results of the (confirmatory) analyses. The results of any mentioned additional analyses can be found in the Supplementary Materials.

Methods

Data Accessibility Statement

Studies 3.2 and 3.3 were pre-registered. Data, analysis scripts and study materials for all studies, and pre-registration documents for Studies 3.2 and 3.3 are available on the Open Science Framework (OSF, https://osf.io/7vpqu/?view_only=672fa997107847b7889eb514fab8a87d). We report how we determined

8 In Study 3.1, we were only able to measure sadness and anger because the questionnaire that we implemented in this exploratory study only contained items measuring sadness and anger, but not hurt. Yet, in studies 3.2 and 3.3 we measured all three emotions.

our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

Participants

Across all three studies there were 1094 complete responses. For Study 3.1, the survey link was distributed in the experimenters' social network. For Studies 3.2 and 3.3 we recruited first year psychology students who were compensated for their time with partial course credit. We pre-registered to exclude participants who indicated insufficient level of English to comprehend the study (Study 3.2) and who failed both attention checks implemented throughout the study (Studies 3.2 and 3.3). Out of the participants who had complete responses, 36 of them were excluded based on the exclusion criteria for indicating insufficient English (n = 35) or failing both attention checks (n = 1), more details can be found in the Supplementary Materials. Demographics of the final sample (N = 1058) are reported in Table 3.1.

Table 3.1 *Participant Demographics for Studies 3.1, 3.2 and 3.3*

	Study 3.1	Study 3.2	Study 3.3
Age M(SD)	27.65 (11.61)	20.01 (2.99)	20.48 (3.05)
Women	142	462	204
Men	106	99	40
NA or other	2	2	3
Sample Size	248	563	247
Inclusion	132	Actual: 154	Actual: 65
		Shared: 133	Shared: 65
Ostracism	116	Actual:136	Actual:57
		Shared:140	Shared:60

The sample sizes in pre-registered studies were determined based on the availability of facilities (e.g., data collection for two weeks in a shared lab). Thus we conducted a sensitivity analysis using G*Power 3.1 (Erdfelder et al., 2009) to identify the minimum effect size that we could detect. Results revealed that with an alpha significance criterion of .05, 80% power for Study 3.2 (N = 563) a regression analysis with two predictors would detect a minimum effect size of f^2 = .017 (R^2 = .017) and for Study 3.3 (N = 247) it would detect a minimum effect size of f^2 = .039 (R^2 = .038). Additionally, for both studies 3.2 and 3.3 we conducted a sensitivity analysis by plotting the level of power we would have

for varying effect sizes given our sample size at an alpha level .05 using the superpower package in R (Lakens & Caldwell, 2021). Investigation of these plots revealed that across both studies we have reasonable power (>80%) to detect small to medium sized effects (f = .18) for the hypothesized interaction effects (df = 1). More details about the procedure and the plots themselves can be found in the Supplementary Materials. The line of studies received ethical approval from Tilburg University Ethical Review Board (reference number: EC-2018.2017.103a).

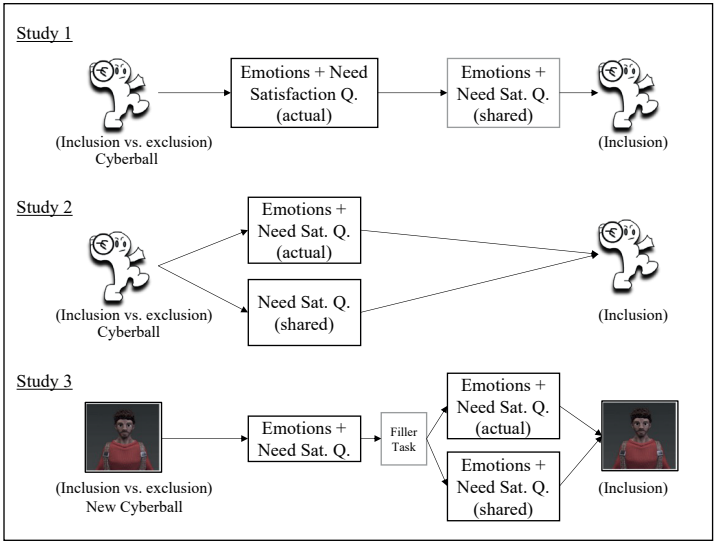
Design and Procedure

The first two studies were conducted online, and the third study was conducted in a lab. The designs and procedures of all three studies are presented in Figure 3.1. Study 3.1 adopted a 2 (belonging status: inclusion vs. ostracism) by 2 (response: actual vs. shared) mixed design, with the latter being the within-subject factor. Participants completed the study online. Participants were first randomly assigned to be included or ostracized in a Cyberball game. Next, participants reported how they felt during the game by completing measures of emotion and need satisfaction (actual responses). Then, participants were told that the responses they just provided would be shared with the other players before the second round of the game. Participants were then presented with their original responses and were provided an opportunity to freely alter them before these responses were communicated to the others. The altered responses they then submitted were recorded as "shared responses."

Study 3.2 used a similar design. The only deviation from Study 3.1 was that the response factor was a between-subjects factor. Participants completed the study online. That is, after playing the first round of Cyberball (included vs. ostracism), participants were randomly assigned to complete the same measures we used in Study 3.1 in an actual-response condition or a shared-response condition. We moved away from the within-subjects manipulation of response-type as in Study 3.1 for two main reasons. One is demand characteristics. The within subject design, in which participants went through both conditions (actual vs. shared condition) may have increased participants' awareness of the goal of our research. Our second consideration was that any difference between the actual vs. shared conditions could be due to the lag between these two assessments (the actual condition always preceded the shared condition). To address these two limitations of the within-subject design we used in Study 1, we adopted a between-subjects design in Studies 3.2 and 3.3.

In Study 3.3, we measured participants' responses to ostracism after a short delay. Following past studies assessing delayed responses at a reflective stage (Ren et al., 2013) we first asked participants to report their emotions and need satisfaction right after the game (immediate responses) followed by a filler task that lasted about three minutes[9]. After the filler task participants reported how they felt during the game (i.e., delayed responses; our key outcome variable). Like Study 3.2, participants were randomly assigned to provide either their actual (delayed) responses or shared (delayed) responses. We have measured delayed responses due to the postulation by the TNT model that that in the reflective stage targets look back and reflect on their experience (K. D. Williams, 2009). Previous research on reactions to ostracism show that right after being ostracized participants are usually overwhelmed and show decreased cognitive capacity or self-regulatory capacities (Baumeister et al., 2002, 2005). We reasoned that these negative effects may potentially hinder any strategic considerations to communicate emotions with instrumental goals in mind. Thus, during a reflexive stage (introduced by a delay), participants would be more likely to make a strategic decision regarding how to communicate their emotions.

Figure 3.1 *The Visual Depiction of the Procedure for All Three Studies in Chapter 3*



9 For the filler task participants answered questions about the game features (consistent with our cover story that we wanted feedback for a newly developed online game).

Manipulation

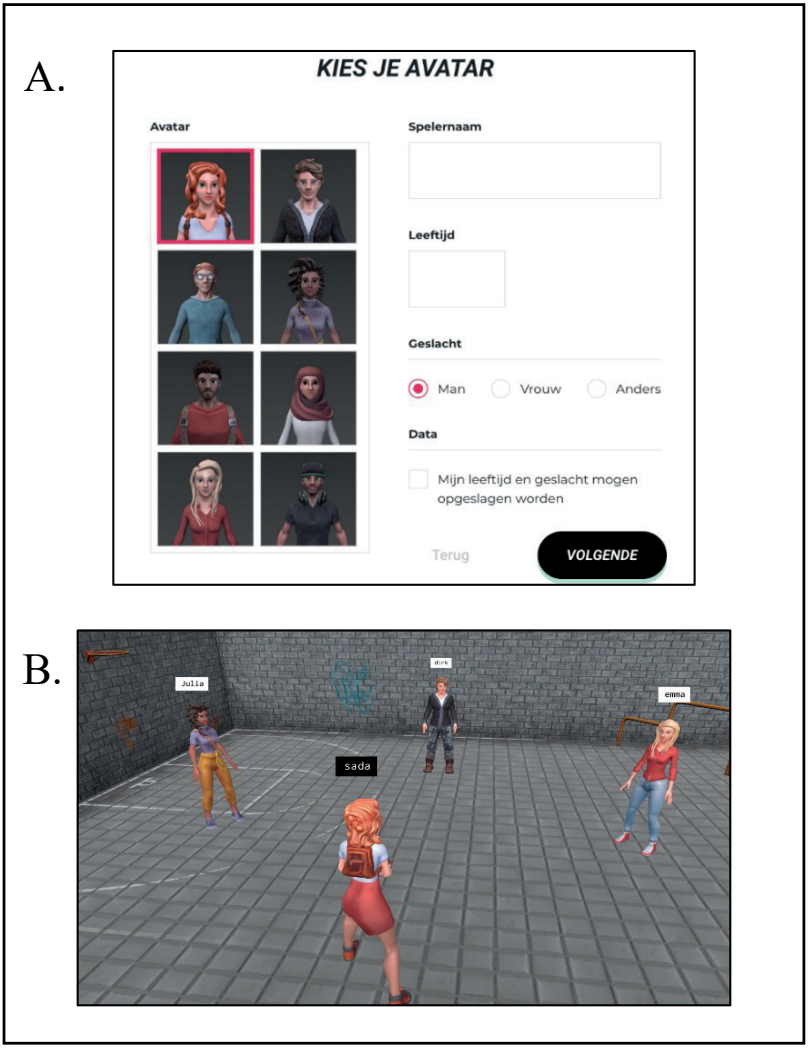
To manipulate belonging status, we used an online ball-tossing game for all three studies. Studies 3.1 and 3.2 used the original version of Cyberball (version 4.0; K. D. Williams et al., 2012). Cyberball is an online ball-tossing game where participants can toss the ball around by clicking on the avatar of other players. Participants were told that they would be playing this game with other participants. In reality, participants played the ball tossing game with computer-simulated players. Included participants received an equal amount of ball tosses as the other players (33% percent if three players [Studies 3.1 and 3.2], 25% if four players [Study 3]). Ostracized participants received a few tosses (< 10%) in the beginning and none after.

Study 3.3 used a new version of Cyberball that we developed to study ostracism. Our version has the same structure as the original Cyberball, but a) allow people to choose their avatar and their nickname; b) has improved visuals compared to the original version (K. D. Williams et al., 2000). These new features were designed to make the game more personalized and promote engagement in the game (see Figure 3.2). Participants in the original Cyberball game play with characters that resemble stick figures. In the new version, however, participants saw more realistic and animated avatars with visual characteristics suggesting gender representation and race. All participants in Study 3.3 played the game with three players. Two of these players were female and one player was male. Moreover, one female player was Black and the other two players were White (See Figure 3.2 to see these 3 players).

Satisfaction Questionnaire (Ren et al., 2016) that has 3 items per need (12 in total). All items were averaged to form a single need satisfaction score (α_{study1} = .96; α_{study2} = .93; α_{study3} = .93). Need threat is the reverse coded version of need satisfaction. For ease of interpretation and visual inspection in the graphs we choose to report need threat rather than need satisfaction.

Note that we did not randomize the order of the items in Study 3.1, because we intended for participants to receive their original responses in the same order as they completed them the first time. In Studies 3.2 and 3.3, the order of the emotion items was randomized. The order of the subscales of the Need Satisfaction Questionnaire was randomized; and the items within each need was randomized.

Figure 3.2 *Visuals From the Game Used in Study 3.3*



Note. Visuals from the modified version of Cyberball used in Study 3.3. Figure A is the avatar selection screen. Participants can select one of the eight avatars as their avatar. Figure B is a screenshot from a game with 4 players. In the game, the participant sees their chosen avatar from the back in the center of the screen and the computer-simulated players are facing the participant.

Measures and Materials

Emotion and Need Threat. To measure emotion, we used two items in Study 1: "during the game, I felt angry" and "during the game, I felt sad" (1 = not at all, 5 = extremely; K. D. Williams, 2009). We used three items in Studies 3.2 and 3.3: "I felt hurt," "I felt sad," "I felt angry" (1 = not at all, 5 = extremely)[10].

To measure need threat, we used the Need Satisfaction Questionnaire (K. D. Williams, 2009). In Study 3.1 we used the full scale with 5 items per need (i.e., belonging, self-esteem, and meaningful existence and control, e.g., "I felt rejected (reversed)," "I felt invisible (reversed);" 1 = not at all, 5 = extremely). In Studies 3.2 and 3.3 we used a short version of the Need

Manipulation Check. Across all studies, we used three manipulation check items (K. D. Williams, 2009).The first two items ("I was ignored," "I was excluded" 1 = not at all, 5 = extremely) were combined ($r_{\text{spearman-brown}}$ = .86-90). The third item asked participants to estimate the percentage of the ball-throws that they thought they received during the game.

Results

We report the results of each study separately. In each study, we used two analytic approaches. First, we ran regression analyses for each outcome variable separately in all three studies (i.e., sadness, anger, hurt feelings, need). Unless otherwise specified, the predictors in each model were: belonging status (exclusion = -.5, inclusion = .5), response type (actual = -.5, shared = .5), and their interaction term. Second, we also used Bayesian tests. For each study, we tested whether the observed data was more probable under the alternative hypothesis (i.e., that targets game their emotions) or the null hypothesis (i.e., that targets do not game their emotions).

All regression analyses were conducted using R with packages lme4 (Bates et al., 2015) and jTools (Long, 2020), for the Bayesian analyses we used bayestestR (Makowski et al., 2019a) and the rstanarm (Gabry et al., 2020) packages.

Study 3.1 Results

Study 3.1 was exploratory. Our goal was to explore whether targets of ostracism would misrepresent their emotions to the sources more so than the included participants.

10 We did not report the reliability scores for our measures of emotion, because these items (angry, sad, hurt) were single-item indicators of distinct emotions.

Manipulation Checks. In Study 3.1, we presented manipulation check items before introducing the response type manipulation and therefore we only report the effect of belonging status. As expected, ostracized participants felt more excluded, than the included participants, B = -2.09, t = -17.48, SE = .12, p < .001, 95% CI [-2.32, -1.85]. Similarly, ostracized participants reported receiving fewer ball tosses than the included participants, B = 19.00, t = 11.60, SE = 1.64, p < .001, 95% CI [15.17, 22.23].

Outcome Variables. For both anger and need threat the main effect of belonging status was significant, such that ostracized participants reported higher levels of anger and need threat than included participants. Importantly, the interaction term between belonging status and response type was significant for both variables as well. We followed up the interaction by conducting two separate contrast analyses with simple contrasts that looked at the effect of response type (*actual* = -.5, *shared* = .5) on both levels of belonging status. While checking for the effect of response type on ostracism condition, the weights of the inclusion condition (for both actual and shared responses) were set to 0, and vice versa. While actual and shared responses did not significantly differ from each other in the inclusion conditions (anger: B <.001, SE = .012, t = -.007, p > .99; need threat: B = -.001, SE = .013, t = -.12, p = .91, 95% CI [-.024, -.021]). Shared responses were significantly less severe than actual responses in the ostracism conditions (anger: B = -.04, SE = .013, t = -3.32, p = .001, 95% CI [-.069, -.018]), need threat: B = -.036, SE = .012, t = -2.99, p = .003, 95% CI [-.060, -.012]).

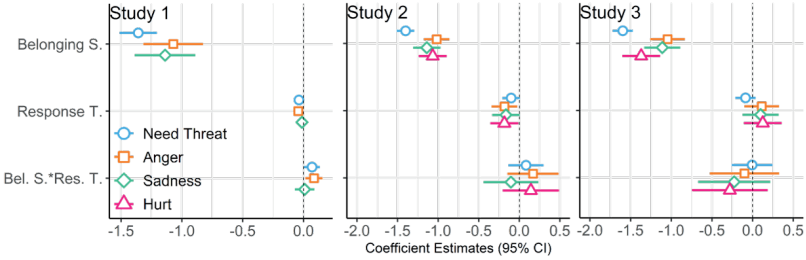
We did not find the same pattern of results for sadness: only the belonging status manipulation had a significant effect; the interaction term did not reach significance. The full set of results pertaining to the key dependent variables can be found in Table 3.2, and a visual summary can be found in Figure 3.3.

Table 3.2 *Results of Regression Analyses for the Main Dependent Variables in Study 3.1*

Outcome & Predictor	*b*	*b* 95% CI [LL, UL]	*t*	*SE*	*p*	Fit
Anger						
(Intercept)	2.06	[1.94, 2.19]	45.80	.06	<. 001	
Belonging	-1.05	[-1.30, -.81]	-11.72	.13	<. 001	
Response	-.04	[-.08, -.01]	-.50	.02	.016	
Belonging *Response	.09	[.02, .16]	.46	.04	.016	
						Pseudo-R^2 (fixed effects) = .219
Sadness						
(Intercept)	2.18	[2.06, 2.31]	48.01	.06	< .001	
Belonging	-1.13	[-1.38, -.88]	-12.42	.13	< .001	
Response	-.01	[-.05, .03]	-.16	.02	.54	
Belonging *Response	.01	[-.07, .09]	.03	.04	.82	
						Pseudo-R^2 (fixed effects) = .24
Need Threat						
(Intercept)	3.06	[2.99, 3.14]	78.113	.04	<0.001	
Belonging	-1.36	[-1.51, -1.21]	-17.33	.08	<0.001	
Response	-.04	[-.07, .01]	-2.25	.02	.024	
Belonging *Response	.07	[.01,.14]	2.09	.03	.036	
						Pseudo-R^2 (fixed effects) = .54

Note. *b* represents unstandardized regression weights. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 3.3 *Visual Summary of the Regression Analysis Results of Main Outcome Variables in Studies 3.1, 3.2, and 3.3*



Note. Visual summary of regression coefficients and associated 95%CI for the regression analyses investigating the effect of belonging status and response type on reported emotions and need threat (Studies 3.1, 3.2 and 3.3).

Study 3.2 Results

We predicted a significant interaction effect between belonging status (ostracism vs inclusion) and response type (actual vs shared). More specifically, we predicted that ostracized participants in the shared response condition (vs actual response condition) would either exaggerate or downplay their emotional responses. We had no a priori reasoning about which of these two hypotheses would be supported. We expected no significant difference between actual versus shared response type condition for included participants. This study's design, hypotheses, and analysis plan were pre-registered.

Manipulation Checks. Ostracized participants reported that they were more ignored and excluded than the included participants condition, B = -2.46, t = -30.69, SE = .04, p < .001, 95% CI [-2.61, -2.30]. As expected, neither the main effect of response type nor the interaction term significantly affected the manipulation check measure, -.011 < Bs < .01, ps > .53.

Ostracized participants reported that they received a smaller percentage of the ball tosses (than the participants in the inclusion condition, B = 21.44, t = 29.10, SE = .74, p < .001, 95% CI [19.99, 22.89]. Unexpectedly, participants in the actual response condition reported that they had received higher percentage of the ball tosses, than the participants in the shared response condition, B = -1.71, t = -2.32, SE = .74, p = .02, 95% CI [-3.16, -.26]. The interaction term was not significant, B = .29, t = .20, SE = 1.47, p = .84, 95% CI [-2.60, 3.19]. We return to this finding in our general discussion section.

Outcome Variables. Both belonging status and response type had a significant main effect on reported anger. Ostracized participants reported feeling angrier than the included participants. Moreover, participants in the actual response condition reported feeling angrier than the participants in the shared response condition. The interaction term was not significant.

For reports of sadness, only the main effect of belonging status was significant. Ostracized participants reported feeling sadder, than the included participants. The main effect of response type and the interaction term were not significant.

Concerning hurt feelings, the main effects of belonging status and response type were significant. Ostracized participants reported feeling more hurt than the included participants. Moreover, participants in the actual response condition reported feeling more hurt than the participants in the shared response condition. The interaction term was not significant.

Ostracized (compared to included) participants reported higher need threat. Neither the main effect of response type nor the interaction term had a significant effect on reported need threat. For a full set of results with regards to the key outcome variables, see Table 3.3.

Study 3.3 Results

For Study 3.3, we predicted either a main effect of response type or an interaction between response type and belonging status. More specifically, based on the results of Study 3.2, in Study 3.3 we predicted that targets would downplay their emotions instead of exaggerating them. This study's design and hypotheses were pre-registered[11].

Manipulation Check. Participants in the ostracism condition reported feeling more ignored and excluded than the participants in the inclusion condition, B = -2.68, t = -30.40, SE = .09, p < .001, 95% CI [-2.86, -2.51]. The response type and the interaction term were not significant, Bs > -.03, ps > .68. Moreover, participants in the ostracism condition thought that they received fewer ball tosses than the participants in the inclusion condition, B = 14.80, t = 20.53, p < .001, 95% CI [13.38, 16.21]. The response type and the interaction term were not significant, -.002 < Bs < .91, ps > .77.

11 In Study 3.3 we pre-registered using a MANCOVA or an ANOVA to test our hypotheses. However, in order to be more consistent with Study 3.2 we report multiple linear regression analyses. Results of a mixed ANOVA yields similar results.

Table 3.3 *Results of Regression Analyses for Dependent Variables of Interest in Study 3.2*

Outcome & Predictor	*b*	*b* 95% CI [LL, UL]	t	*SE*	*p*	Fit
Anger						
(Intercept)	1.74	[1.66, 1.82]	43.18	.04	< .001	
Belonging	-1.02	[-1.18, -.86]	-12.64	.08	< .001	
Response	-.18	[-.34, -.03]	-2.28	.08	.023	
Belonging *Response	.17	[-.15, .49]	1.05	.16	.29	
						R^2 = .23** $F(3,559)$ = 54.92
Sadness						
(Intercept)	1.85	[1.77, 1.94]	42.98	.04	< .001	
Belonging	-1.14	[-1.31, -.97]	-13.23	.09	< .001	
Response	-.17	[-.33, .00]	-1.92	.09	.056	
Belonging *Response	-.10	[-.44, .24]	-.60	.17	.55	
						R^2 = .24** $F(3,559)$ = 58.99
Hurt						
(Intercept)	1.80	[1.71, 1.89]	40.83	.04	< .001	
Belonging	-1.07	[-1.24, -.89]	-12.10	.09	< .001	
Response	-.19	[-.36, -.01]	-2.10	.09	.036	
Belonging *Response	.14	[-.20, .49]	.80	.18	.42	
						R^2 = .21*** $F(3,559)$ = 50.04
Need Threat						
(Intercept)	3.14	[3.09, 3.20]	113.61	.03	< .001	
Belonging	-1.43	[-1.51, -1.29]	-25.36	.06	< .001	
Response	-.10	[-.21, .01]	-1.83	.06	.07	
Belonging *Response	.08	[-.14, .30]	.74	.11	.46	
						R^2 = .53*** $F(3,559)$ = 215.28

Note. *b* represents unstandardized regression weights. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively. *** $p < .001$, ** $p < .01$, * $p < .05$.

Outcome Variables. Ostracized participants reported feeling more anger, sadness, and hurt feelings than included participants. We observed no evidence that actual and shared responses significantly differed. That is, after a delay, ostracized participants still felt more negatively than included participants, but they did not strategically communicate this to others. Replicating the effects of ostracism, ostracized participants reported higher need threat than included participants. There was no evidence that actual and shared responses significantly differed. Full set of results pertaining to the regression analyses can be seen in Table 3.4.

Bayesian Analyses

The results of the three studies offered little evidence for the idea that targets would misrepresent their emotions to the sources. However, the frequentist statistics approach did not allow us to conclude whether the data offers support for the null hypothesis (i.e., no gaming) or not. Therefore, we conducted a set of Bayesian analyses. We investigated under which model (i.e., one with or one without response type as a predictor) the observed data would be more probable. To quantify support for our model comparison we relied on the Bayesian information criterion (BIC) approximation that is used for comparing frequentist models (Wagenmakers, 2007). This method enabled us to acquire Bayes Factors (*BF*) indicating which model is favored more based on the observed data. The result of this analysis indicates whether the data is more probable under one model over the other and, thus, provides more information on how to interpret the null results of the frequentist approach. For each study we compared the model with only belonging status (M_0) with the model with belonging status, response type and their interaction term (M_1). The resulting Bayes Factor (BF_{10}) from this analysis informs us on whether the data is more probable under the latter model including the response type as a predictor or not. BF_{10} values higher than 1 offers more support for M_1 (i.e., support against M_0), and values smaller than 1, offers more support for M_0 (i.e., support against M_1). If the results reveal more support against M_1 (or more support in favor of M_0), this means that the observed data was more probable for when the participants did not game their emotions (i.e., no effect of response type on how participants reported their emotions).

Table 3.4 *Results of Regression Analyses for Dependent Variables of Interest in Study 3.3*

Outcome & Predictor	*b*	*b* 95% CI [LL, UL]	*t*	*SE*	*P*	Fit
Anger						
(Intercept)	1.65	[1.54, 1.75]	30.37	.05	<.001	
Belonging	-1.05	[-1.26, -.83]	-9.65	.11	<.001	
Response	.11	[-.10, .33]	1.03	.11	.30	
Belonging *Response	-.10	[-.53, .33]	.46	.22	.64	
						R^2 = .28***
						$F(3,243)$ = 31.58
Sadness						
(Intercept)	1.66	[1.54, 1.77]	29.37	.06	<.001	
Belonging	-1.11	[-1.33, -.89]	-9.86	.11	<.001	
Response	.10	[-.12, .32]	.87	.11	.38	
Belonging *Response	-.23	[-.67, .22]	-1.01	.23	.31	
						R^2 = .29***
						$F(3,243)$ = 33.11
Hurt						
(Intercept)	1.82	[1.70, 1.93]	30.65	.06	<.001	
Belonging	-1.37	[-1.60, -1.14]	-11.56	.12	<.001	
Response	.12	[-.11, .36]	1.05	.12	.29	
Belonging *Response	-.28	[-.75, .19]	-1.18	.24	.24	
						R^2 = .36***
						$F(3,243)$ = 45.61
Need threat.						
(Intercept)	3.07	[3.00, 3.13]	96.46	.03	<.001	
Belonging	-1.60	[-1.72, -1.47]	-25.12	.06	<.001	
Response	-.09	[-.21, .04]	-1.38	.06	.17	
Belonging *Response	-.01	[-.26, .24]	-.05	.13	.96	
						R^2 = .73***
						$F(3.243)$ = 210.83

Note. Here, we report the regression analyses on the delayed measures of reported emotions and need satisfactions. *b* represents unstandardized regression weights. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively. *** $p < .001$, ** $p < .01$, * $p < .05$

For Study 3.1, results revealed more support against the model with the response type for anger BF_{10} = .002, sadness, BF_{10} < .001, and for need threat, BF_{10} < .001. For Study 3.2, the results similarly revealed more support against the model with the response type for anger, BF_{10} = .04, for sadness, BF_{10} = .014, for hurt feelings, BF_{10} = .022, and for need threat, BF_{10} = .012. For Study 3.3, the results revealed that more support against the model with the response type for anger, BF_{10} = .008, for sadness, BF_{10} = .009, for hurt feelings, BF_{10} = .014, and for need threat, BF_{10} = .011. Taken together, these results offer very strong evidence against the model including response type as a predictor compared to the model just with belonging status. Taken together, the results of these tests across all three studies provide more support against Model 1 – i.e., the model that includes the response type as a predictor. Therefore, we take this as evidence for the observed data being more probable for when the participants did not game their emotions[12].

General Discussion

In the current paper, we investigated whether ostracized targets game their emotions to sources more than included individuals. We proposed that targets might exaggerate or downplay their emotions to the sources. We tested these two competing hypotheses in a series of three experiments using well-validated experimental paradigm of ostracized (K. D. Williams & Jarvis, 2006), study designs for researching gaming emotions (Andrade & Ho, 2009), and widely used measures of the outcome variables (K. D. Williams, 2009). Our results replicated the large body of work on ostracism: Ostracism hurts more than inclusion. We found some encouraging evidence, albeit inconsistent, for our predictions in Study 3.1. Next, we conducted two confirmatory studies. Overall evidence coming from frequentist and Bayesian approaches converges in that across three studies participants did not game their emotions when communicating with sources.

On average we did not observe consistent evidence that ostracized participants gamed their emotions more than included participants. However, it is possible that some participants might have exaggerated their feelings while

12 We conducted an additional set of Bayesian analyses in which we ran the Bayesian alternative of the regression analyses reported in each study. Results of these analyses also offered more support for the hypothesis that the observed data was more likely under the assumption that targets did not game their emotions. More details and full set of results can be found in the supplementary materials.

others downplayed them (i.e., differentiated gaming). We explored this possibility using the data from Study 3.3 but found no evidence in support of differentiated gaming (see Supplementary Materials for the results of this analysis). We thus conclude that the overall pattern of results does not support that ostracized individuals alter their experienced emotions and level of need threat to sources of ostracism.

Results of Study 3.2 suggested that participants in the shared response conditions reported less severe hurt and anger regardless of whether they were ostracized or included. Participants in the shared response condition (vs actual response) also reported receiving less ball tosses across both inclusion and ostracism conditions. Yet, these effects were not qualified by an interaction with their belonging status. Therefore, although these pieces of evidence point to some sort of gaming (i.e., participants telling others they received fewer balls or saying that they did not feel that bad) it does not suggest that participants game after being ostracized more/less than after being included, providing no evidence for our gaming hypotheses.

Lastly, we conducted a set of Bayesian analyses. Results of these analyses provided strong evidence against the model that incorporates response type as a predictor. That is, the current data is more probable under the assumption that participants just communicated how they felt after being ostracized (vs included) to the sources (or privately) without strategically misrepresenting their emotions and needs regardless of how (between- versus within-subject) or when (immediate or delayed) they were asked to do so. We think that the combination of the frequentist and Bayesian approaches produces strong evidence that targets of ostracism choose to communicate their emotions and needs truthfully.

Implications

Across three studies we observed no consistent evidence of gaming for ostracized participants. That is, the targets of ostracism (vs included participants) were not more likely to exaggerate or downplay their emotions when they thought this would be communicated to the other players. One potential interpretation of this finding is that participants did not feel the need to alter their emotions and that they wanted to communicate truthfully. This would mean that when people are ostracized in a setting such as Cyberball, they might want to tell the others, truthfully, how they felt during the game. This has implications for how targets of ostracism are perceived and treated when they talk about their experience. People tend to think that ostracism is less harmful than other types

of mistreatment (O'Reilly et al., 2014) and underestimate the social pain of the targets (Nordgren et al., 2011). Our results, then, might suggest the plight of the target to be taken as truthful and not as a misrepresentation of their emotional state.

What does the evidence against gaming of emotions after ostracism mean for emotion-regulation goals in this context? In the introduction we laid out several reasons as to why people may want to downplay or exaggerate their emotions to sources which were centered around targets wanting to avoid negative outcomes (e.g., reciprocal anger or looking weak) or attain positive outcomes (e.g., re-inclusion or instilling empathy). We interpret the evidence against gaming emotions in the current study as evidence for participants not being motivated to game their emotions to the sources. Previous work suggests that people are motivated to regulate their emotions with instrumental goals to the extent that they think this would be beneficial for them in some way (Eldesouky & English, 2019; Riediger et al., 2009; M. Tamir et al., 2013; M. Tamir & Ford, 2012). Following that logic, the evidence against gaming in the current study can be interpreted as people not seeing utility in gaming emotions within the current study.

Why did participants in the current project not see utility in gaming emotions? We speculate this may have happened for at least three different reasons. First, participants may have thought that the sources would be unresponsive and not be concerned about the their emotional state. That is, even if participants think gaming emotions is useful in general, they may have thought that the sources would be unresponsive to their communication. This may have diminished their motivation to increase the effectiveness of communicated emotion by gaming it. Second, participants themselves may have been less concerned about the social outcomes of shared emotions. Previous research suggests that individuals tend to inhibit less and self-disclose more when online compared to in-person social interactions (e.g., Suler, 2004). Finally, a third possibility is that participants may have felt that they would be able to convey whatever they wanted to convey without gaming their emotions That is, they may have thought that the level of emotion they experienced would be enough to signal what they think about the situation to the sources. This may also result in no motivation to game. Future work can investigate these various possibilities further by incorporating measures that tap into people's beliefs surrounding the impact of communicated emotions on the desired outcomes (e.g., the belief in that they would be re-included if they make the sources believe that they were not hurt).

We have measured the gaming of emotions both at the immediate (Studies 3.1 and 3.2) and the delayed stage (Study 3.3). The results of the three studies converged to a large extent in that participants did not game their emotions, regardless of the stage in which they were given the possibility to do so. This pattern of results rules out the explanation that targets did not game their emotions in Studies 3.1 and 3.2 because they were still dealing with the initial hurt of ostracism and could not focus on instrumental or social motives that could help them communicate a certain message to the sources. Rather, these patterns of results further support the conclusion that participants in this online ball-tossing game did not choose to game their emotions and instead communicated to the sources truthfully.

Our design choices with regards to communication of emotions paralleled previous work on gaming emotions that showed that people game their emotions to attain better financial payoffs (Andrade & Ho, 2009; van Dijk et al., 2018). One main difference between these prior studies and the current study is that while these prior studies focus on people's financial standing (i.e., not being satisfied with the payoff and trying to attain a better financial payoff), the current study focuses on people's social standing (i.e., not being satisfied with one's inclusion status and potentially trying to attain a better social outcome – inclusion). It is possible that the financial incentive inherent in negotiation studies may be the motivating factor for observed gaming of emotions in such studies. The incentive of inclusion in the online ball-tossing game may not be enough for people to engage in strategic considerations with regards to how they express their emotions. Future work can test this possibility by incorporating financial incentives in this online ball-tossing game (for example by using €yberball: van Beest & Williams, 2006).

Moreover, ostracism is an experience that is painful (K. D. Williams, 2007) and has a myriad of negative consequences that might potentially impact one's ability to game their emotions. For example, targets might not be able to consider how their communication may impact others due to impaired cognitive abilities (Baumeister et al., 2002), or they might not be able to engage in strategic communication due to impaired self-regulation (Baumeister et al., 2005). This makes the experience of ostracism and the following communication of emotions a more complex social interaction than communication emotions with regards to an unfavorable financial outcome. Ostracized targets might not exactly know how to regain inclusion, and this might inhibit their ability to strategically misrepresent their emotions to attain social inclusion.

Limitations and Additional Future Directions

One limitation is that we focused on how targets communicated with sources. Even though ostracized targets might be motivated to game their emotions, they might not be motivated to do so to the sources of their suffering. If participants do not think that the others will care, they might just be unwilling to engage in any emotional communication (Von Culin et al., 2018). Would, then, the targets of ostracism be more likely to game their emotions to people other than the sources –i.e., an innocent bystander, or their therapist? Future research can investigate this question by including an observer in the Cyberball paradigm (i.e., a player that is present during the game but is not expected to participate in the game).

Another limitation is that we studied ostracism by strangers. In all studies participants played the game with other randomly selected participants whom they had no chance of meaningful face-to-face interaction. This meant that they played the game and were ostracized by total strangers which targets may not see as likely affiliation partners (DeWall & Richman, 2011). However, people also get ostracized by people they know, i.e., their friends, family members, and their colleagues. Would people be more motivated to misrepresent their emotions to people whom they know beforehand? For example, if a target exaggerates how sad they feel about being ostracized to their friend would this be more likely to instill empathetic concern (Batson et al., 2007)? Alternatively, would targets be more likely to downplay their sadness so as not to appear weak (Spokas et al., 2009) when they are sharing their hurt to a friend? Future research can investigate this question using paradigms that allow for observing daily interactions (e.g., a diary study) to gain further insights into the various audiences and how they impact the target's motivation to communicate their emotions.

While designing our studies we paid close attention to incorporating previously established paradigms and measures. We aimed to test the established gaming emotions hypothesis as a response to not financial but social outcomes. To that end, we modeled our design based on previous work on gaming emotions (Andrade & Ho, 2009; van Dijk et al., 2018) and used a well-established ostracism paradigm with associated measures (K. D. Williams, 2009). By doing so, we ensured that our design and paradigm were similar to previous work that investigated gaming emotions and ostracism. This ensured that the findings we obtained are valid and relevant to researchers who rely on these typical operationalization and methods of ostracism and gaming emotions. Nevertheless, we feel future research might also benefit from studying

emotional communication after ostracism in other settings as discussed above. Additionally, although using single-item measures of distinct emotions is not uncommon in ostracism research (Çelik et al., 2013; Petsnik & Vorauer, 2020), future research could also benefit from relying on multiple-item measures of distinct emotions (for example, see: Harmon-Jones et al., 2016) to increase the reliability of measured emotions.

Conclusion

Past work shows that people game their emotions to improve their outcomes in a variety of contexts (e.g., in a financial negotiation, at work, or during social interactions in daily life). In the current paper, we evaluated the possibility of gaming emotions in the context of ostracism. Using well-established paradigms and measures in ostracism research, we conducted three studies investigated whether ostracized individuals would game their emotions to the sources of ostracism. Across studies, we found little evidence that people game their emotions to the sources after being ostracized, suggesting that people truthfully communicate their emotions with the sources.

BASED ON:

Meral, E. O., Vranjes, I. van Osch, Y., Ren, D., van Dijk, E., van Beest, I. (2022). Intensity, intent, and ambiguity: Appraisals of workplace ostracism and coping responses. *Aggressive Behavior*, 1–14. https://doi.org/10.1002/ab.22060, Manuscript published online ahead of print.

All data, analysis scripts and pre-registration files are at the Open Science Framework (https://osf.io/qnukh/)

Chapter 4

Intensity, intent, and ambiguity: Appraisals of workplace ostracism and coping responses

Abstract

Using both correlational and experimental designs across four studies (N = 1251 working individuals), the current project aimed to contribute to the understanding of workplace ostracism by studying two research questions. First, we tested whether the subjective experience of targets reflects the current theorizing of ostracism. Second, drawing from the transactional theory of stress and coping (Lazarus & Folkman, 1984), we investigated whether this subjective experience impacts targets' coping responses. Findings based on exploratory and confirmatory factor analyses supported the current theorizing of workplace ostracism such that perceived intensity, intent, and ambiguity were reflected in how targets appraised being ostracized at work. The appraisals were also related to coping responses. Perceived intensity predicted more approach-oriented (e.g., confrontation) and less avoidance-oriented coping responses (e.g., minimization). While attributions of intent also predicted some coping responses (e.g., instrumental support seeking), the explanatory power of perceived ambiguity was lower than the other two appraisals. Although these researcher-defined dimensions may be reflective of targets' experience, we propose that predictions made based on these dimensions need further refinement. The theoretical and practical significance of these findings are discussed in relation to how workplace ostracism is typically studied in the literature.

Imagine going to work and greeting your colleagues and receiving no answer, having to sit alone during lunch or realizing that your colleagues are not inviting you when they go for a coffee break. These seemingly subtle occurrences are just a few examples of workplace ostracism. Being ostracized at work is associated with a multitude of negative outcomes such as increased turnover intentions and rates (O'Reilly et al., 2014), lower job performance (Feng et al., 2019; Xia et al., 2019), increased emotional exhaustion (Thompson et al., 2019) or psychological distress (Wu et al., 2012) to name a few. Therefore, considerable research up to date has focused on identifying antecedents and outcomes associated with workplace ostracism (for recent meta-analyses, see: Bedi, 2021; Howard et al., 2020).

Yet, how people appraise ostracism and how this appraisal shapes their coping strategies has received relatively less attention. This is an issue because effective mitigation or prevention of ostracism would be challenging without understanding how targets (i.e., those who are ostracized) deal with such instances. Therefore, in this project we study how targets cope with workplace ostracism by drawing from transactional theory of stress and coping (Lazarus & Folkman, 1984) and investigating how targets' subjective appraisals relate to coping responses. We aim to gain a refined understanding of workplace ostracism by (1) assessing whether targets' subjective appraisals reflect the current theorizing of ostracism and (2) whether their subjective appraisals impact coping responses.

This study has several theoretical and practical contributions. First, this project can contribute to the understanding of workplace ostracism as a theoretical construct. What differentiates workplace ostracism from other workplace aggression constructs is that it is defined as an act of omission that is characterized by low intensity, lack of clear intent to harm, and ambiguity (Ferris et al., 2017; Robinson et al., 2013; Robinson & Schabram, 2017). However, it is currently unclear whether targets' appraisals of ostracism really encompass these three appraisals. We fill this gap by testing whether targets' appraisals are in line with how workplace ostracism is defined. By doing so, this study also contributes to the discussion on the distinctiveness of how workplace aggression constructs are defined (Hershcovis, 2011; Hershcovis & Reich, 2013).

Second, it is often implied that appraisals of ostracism influence how people respond to being ostracized at work (e.g., Ferris et al., 2016; Robinson et al., 2013). Yet, researchers rarely measured or manipulated appraisals of ostracism

to study their effects. In the current project we examined if the researcher-defined criteria surrounding intensity, intent, and ambiguity determined coping responses to workplace ostracism. As such this can help refine predictions regarding behavioral outcomes associated with ostracism at work.

Finally, our project has important practical implications. Knowing how people cope with workplace ostracism may help organizations identify how to help and assist ostracized employees. For instance, previous studies on coping show that not all strategies are equally constructive or beneficial (e.g., J. P. Baker & Berenbaum, 2007; Biggs et al., 2017; Lazarus & Folkman, 1984). Because poor coping with this prevalent organizational stressor can affect both individual and organizational effectiveness (e.g., due to loss in productivity), identifying factors contributing to it carries both individual and organizational benefit.

Defining Workplace Ostracism

In the current project we rely on a dominant stream and define ostracism as "the extent to which an individual perceives that he or she is ignored or excluded by others" (Ferris et al., 2008, p. 1348). We rely on this definition also because of its emphasis on the targets' subjective experience. This variance in subjective experience can be consequential for how targets deal with being ostracized at work. For instance, while one person may consider not being invited for coffee as ostracism, another person may not interpret the event as such. Due to varying interpretations of the same situation (cfr. appraisal; Lazarus & Folkman, 1984) people will react differently to the same types of occurrences. Therefore, relying on a definition of workplace ostracism that incorporates the subjective experience of the targets is more valuable for the purposes of the current project than looking at workplace ostracism solely as an act of omission (Robinson et al., 2013).

Past decades witnessed a proliferation of workplace aggression constructs which was met by a call for integration (e.g., Hershcovis, 2011), and more rigorous investigation of individual constructs to identify antecedents and outcomes associated with these specific constructs (e.g., Ferris et al., 2008, 2017; O'Reilly et al., 2014; Robinson et al., 2013). In comparing workplace ostracism to other constructs, researchers have characterized workplace ostracism by appraisals of low intensity, low intent, and ambiguity (Ferris et al., 2017). Specifically, the appraisal of low intensity refers to the fact that ostracism, in comparison to other workplace mistreatment constructs such as harassment or bullying, would be perceived as less intense or severe by the

targets (e.g., O'Reilly et al., 2014). Next, the appraisal of low intent captures how targets of ostracism may attribute low levels of harmful intentions to acts of ostracism or that they may have a hard time deciphering intent. Finally, the appraisal of ambiguity refers to how ostracism is ambiguous as to whether it happened or not mainly due to being an act of omission (Robinson et al., 2013).

Appraisals of Workplace Ostracism and Coping

Coping refers to any cognitive or behavioral effort aimed at managing or tolerating a specific stressor (Lazarus & Folkman, 1984). The transactional theory of stress and coping (Lazarus & Folkman, 1984) categorizes coping responses into two higher-order categories, emotion- and problem-focused coping. While problem-focused coping responses are classified as responses focusing on solving the issue at hand (e.g., confrontation or instrumental support seeking), emotion-focused coping responses deal with the emotional aftermath instead of trying to resolve the problem (e.g., emotional support seeking or avoidance). This also relates to the approach and avoidance orientation for dealing with stress (Roth & Cohen, 1986). Coping responses that orient oneself towards the source of the problem (i.e., the ostracizer or the feelings associated with being ostracized) can be classified as approach-oriented, whereas coping responses that move away from the source of the problem can be classified as avoidance-oriented (also akin to engagement-disengagement coping put forth by D. L. Tobin et al., 1989). According to the transactional theory of coping and stress (Lazarus & Folkman, 1984), people determine whether and how to cope with a stressful event based on their appraisals of this event. People assess how threatening an event is, and whether they have sufficient resources to deal with it. Empirical studies examining the relationship between workplace ostracism appraisals and coping are lacking, but prior literature did theorize about the relationship between these appraisals and target's responses to ostracism.

Regarding intensity, scholars suggest that workplace ostracism is perceived as less intense than some other forms of workplace aggression both theoretically (Ferris et al., 2017; Scott & Duffy, 2015) and empirically (O'Reilly et al., 2014). For example, O'Reilly et al. (2014) suggest that individuals perceive ostracism as more acceptable and less socially inappropriate than harassment. Consequently, low intensity may relate to subdued coping responses. Appraising workplace mistreatment as more or less negative (Marchiondo et al., 2018), stressful (Bunk & Magley, 2013; Cortina & Magley, 2009), or intense (Nixon et al., 2021; Nixon & Spector, 2015) is related to how targets response to being

mistreated. More specifically for coping, Cortina and Magley (2009) found that when people did not perceive incivility to be very stressful, they engaged more in minimization or detachment as a way of coping. In contrast, when incivility was perceived as stressful, people responded with support seeking or more assertive coping strategies. Drawing from these findings, we expect that targets of workplace ostracism may also engage in more approach-oriented and less avoidance-oriented coping to the extent that they appraise workplace ostracism as intense.

Attributions of intent can also relate to how targets cope with being ostracized at work. Liu (2019) suggested that when attributions of harmful intent are low, targets of ostracism make more internal attributions (i.e., self-blame) about why ostracism took place (e.g., "I was socially awkward") instead of external attributions (e.g., "The perpetrator tried to hurt me"). This self-blame may in turn lead to more rumination (He et al., 2020; Rime et al., 1992) and distress by being reminded of negative information about oneself (Kim et al., 2020). Seeking support from others or confronting the perpetrator – approach-oriented responses – may be unpopular strategies when one thinks that they are the root of the problem. Alternatively, the perception that one is being intentionally harmed or hurt may lead to anger (DeWall et al., 2009; Reijntjes et al., 2011). This anger may lead to more approach-oriented coping given that anger is an emotion associated with approach behaviors (C. S. Carver & Harmon-Jones, 2009; Reiter-Scheidl et al., 2018). Taken together, we expect that attributing harmful intent to the sources will be positively related to approach-oriented coping and negatively related to avoidance-oriented coping.

Regarding appraisals of ambiguity, Robinson et al., (2013, p. 208) argue that this characteristic of ostracism "makes ostracism much more difficult to cope with and respond to than incivility, aggression, harassment, bullying, and the like." Moreover, Robinson et al. (2013) suggest two reasons as to why the ambiguity may lead to less approach-oriented coping responses. First, they suggest that confronting someone about an act of omission (i.e., something they have not actively engaged in) may be more difficult than confronting someone about a more tangible act, like an act of commission. Second, they argue that ambiguity may enable the perpetrator to deny wrongdoing, making it difficult for the targets to approach the source of the stressor. On a similar note, Ferris et al., (2016) argue that the uncertainty and ambiguity surrounding ostracism may lead the targets to feel anxious and consequently respond with avoidance-oriented responses. Taken together, these insights suggest that ambiguous nature of ostracism will lead to more avoidance-

oriented behaviors. Building on these studies, we propose that an increase in perceived ambiguity of workplace ostracism will lead to less approach-oriented, and more avoidance-oriented coping responses.

Current Research

In this project, we investigate (1) whether the researcher-defined criteria for workplace ostracism are reflected in the subjective experience of the targets and (2) whether this subjective experience relates to coping responses. To address these questions, we conducted four studies. Given the scarcity of empirical work on the topic we started with an exploratory study. Following past work (Hershcovis et al., 2018; Marchiondo et al., 2018) in Study 4.1 we used a critical incident approach and aimed to provide insights into how people appraised and coped with a lived experience of workplace ostracism. Note, however, that the memory of a stressor is related to how one copes with this stressor (e.g., Levine et al., 2012). It follows that any relationships we observe between targets' appraisals and coping with a critical incident approach may be prone to memory biases. To overcome these biases, we conducted three vignette experiments (Studies 4.2.1 to 4.2.3) and manipulated appraisals of intensity, intent, and ambiguity (all high vs. low) to test how each relates to coping responses. Relying on this method also allowed us to test causal relationships between appraisals and coping responses.

All studies were pre-registered. For Study 4.1 (exploratory) we pre-registered our measures, sample size and exclusion criteria; and for Study 4.2 (confirmatory), we also pre-registered our hypotheses. Hypotheses for Study 4.2 are in the relevant introduction section. All data, analysis scripts and pre-registrations can be found in a publicly accessible repository at https://osf.io/qnukh/.

Study 4.1

Using a critical incidents approach, we examined whether targets' subjective appraisals reflect the current theorizing of ostracism at work and whether these appraisals related to specific coping strategies for dealing with workplace ostracism.

Methods

Participants

Based on our a priori determined sample size, we recruited 300 participants online (screening criteria: UK citizens, English as first language, with approval rates > 95%, employed fulltime or parttime, always or sometimes works from a central place of work [also during Covid-19]) via Prolific UK (Peer et al., 2017). We paid participants 1.70 pound for their efforts. We pre-registered to exclude participants who wrote a memory in less than 30 seconds (n = 1) or failed two of the three attention checks (n = 0). We also excluded participants who did not write a memory of workplace ostracism or indicated that they were never ostracized at work (n = 41). The final sample consisted of 258 participants (127 female, 131 male). The age ranged from 18 to 69 (M = 35.96, SD = 11.92). Most participants were employed full time (n = 203), followed by part-time employees (n = 46), few were unemployed and looking for work (n = 3) and lastly, one participant was a student (n = 1) at the time of the study[13]. All participants approved the informed consent before starting the study.

Procedure

First participants completed the 10-item Workplace Ostracism Scale (WOS: Ferris et al., 2008) reflecting on the past year. Then we asked all participants to describe a recent workplace ostracism experience in detail. We provided the items from the WOS (Ferris et al., 2008) as examples and did not provide a detailed description of workplace ostracism. Next, participants rated their perception of the experience on perceived intensity, intent, and ambiguity. The items pertaining to these constructs were presented on three separate pages. Afterwards, participants saw the coping scale on a single page. We randomized the order of constructs and the order of items within each construct except coping responses due to a technical error. Next, participants described the way in which they coped with the event in their own words followed by questions

13 We choose not to exclude the four participants who were "unemployed" at the time of the study for several reasons. First, we only presented them with a limited number of employment options (e.g., we did not have an item tapping to being "in-between jobs"). Second, participants could only select one answer option. If a participant was a student who was working, they might have chosen "student." Lastly, recently unemployed participants could also have had recent experiences of workplace ostracism. Thus, we opted for including the participants if they reported a recent ostracism incident regardless of their current employment status.

on general self-efficacy. Finally, participants answered some demographic questions and were debriefed.

Measures and Materials

Workplace Ostracism. The WOS (Ferris et al., 2008) is a 10-item measure of workplace ostracism assessing the frequency of experienced ostracism for the past year (e.g., "Others ignored you at work," 1 = *never*, 7 = *always*, Cronbach's α = .90).

Perceived Intensity. Similar to previous work (e.g., Nixon et al., 2021) we wanted to stay close to definitional criteria and directly asked participants to assess the intensity of the episode by three items we devised (e.g., "*To what extent do you think what happened to you was intense?"* 1 = *not at all,* 5 = *extremely;* Cronbach's α = .90).

Perceived Ambiguity. Based on our theoretical conceptualization of ambiguity and previous work on various forms of ambiguity (e.g., Breaugh & Colihan, 1994; McLain et al., 2015) we constructed three items (e.g., "*I am certain I was excluded* (R)*,"* 1 = *strongly disagree*, 7 = *strongly agree;* Cronbach's α = .80). Higher scores reflect more perceived ambiguity.

Perceived Intent. We measured perceived intent by utilizing nine items from past research (Marchiondo et al., 2018) that asks the extent to which participants attributed intent to the source (e.g., "*The primary person(s) planned this behavior,"* 1 = *strongly disagree,* 5 = *strongly agree*; Cronbach's α = .89).

Coping Responses. While choosing the coping strategies we relied on previous work on coping with stressors (e.g., C. Carver et al., 1989; Lazarus & Folkman, 1984) and work investigating coping with various forms of workplace mistreatment (e.g., Cortina & Magley, 2009; Hershcovis et al., 2018). We asked participants about confrontation *(e.g., "I confronted the primary person(s)*," Cortina & Magley, 2009), seeking instrumental support *(e.g., "I talked to someone to find out more about the situation*," C. Carver et al., 1989), seeking emotional support (e.g., "*I asked people who have had similar experiences what they did*," C. Carver et al., 1989), minimization and conflict avoidance *(e.g., "I told myself that what happened wasn't important*," Cortina & Magley, 2009). When needed, we adopted the wording of certain items to fit the context of workplace ostracism. In addition, we included a number of items to assess mild forms of confrontation for a subscale we called "soft-confrontation." We opted to include mild forms because previous

research reported low rates of confrontation to cope with subtle instances of workplace mistreatment (Cortina & Magley, 2009; Hershcovis et al., 2018). Additionally, Hershcovis et al. (2018), argued that confrontation might be too direct and strong for a subtle workplace mistreatment. We used three items (e.g., *"I asked the primary person(s) why I was excluded."*). This set of coping responses differed based on whether they are emotion- vs problem-focused (e.g. emotional support seeking vs confrontation, Lazarus & Folkman, 1984); and whether they are approach- or avoidance-oriented (e.g., confrontation vs avoidance, Roth & Cohen, 1986). Participants indicated to what extent each statement describes how they dealt with the situation (1 = *not at all*, 5 = *a great deal*). We ran exploratory factor analyses (EFA) to understand the factor structure of the coping responses The final EFA with 16 items and a four-factor solution provided acceptable fit χ^2 (87, N = 258) = 278.68, p < .001, CFI = .94, TLI = .90, RMSEA = .092, 95% CI (.078, .107). More details about the factor analysis and the factor loadings can be found in the Supplementary Materials. Based on the factor analysis we created subsets for the coping responses as confrontation (combination of confrontation and soft-confrontation items; Cronbach's α = .94), emotional support seeking (Cronbach's α = .91), instrumental support seeking (Cronbach's α = .89), and minimization (three minimization items and one item from the initial avoidance subscale: Cronbach's α = .75).

Self-Efficacy. We measured self-efficacy by using the eight-item New General Self Efficacy Scale (G. Chen et al., 2001) with items such as "*I will be able to overcome many challenges*" (1 = *strongly disagree,* 5 = *strongly agree*, Cronbach's α = .91).

Results

Appraisals of Workplace Ostracism

To establish whether the definitional characteristics of workplace ostracism (i.e., intensity, intent, and ambiguity) were distinguishable in our sample we conducted an exploratory factor analysis (EFA). We used parallel analysis (PA) for factor extraction; principal axis factoring method with oblique (Oblimin) rotation and conducted the analysis using the fa() function of the R package psych (Revelle, 2021). We excluded one item from the perceived intent subscale because it did not load on any of the three factors. The final three-factor solution provided a good fit for the data with the remaining set of items χ^2(52, N = 258) = 126.46, p < .001, CFI = .97, TLI = .94, RMSEA = .074, 95% CI (.055, .094). Factor loadings of the final model can be seen in Table

4.1. Based on the results of the EFA we created separate indices for perceived intensity (α = .90), intent (α = .91), ambiguity (α = .80) by calculating the means of respective items into single scores. We report the best fitting one here, but we also explored other factor solutions (see Supplementary Materials).

Table 4.1 *Factor Loadings of the EFA on Perceptions of Workplace Ostracism in Study 4.1*

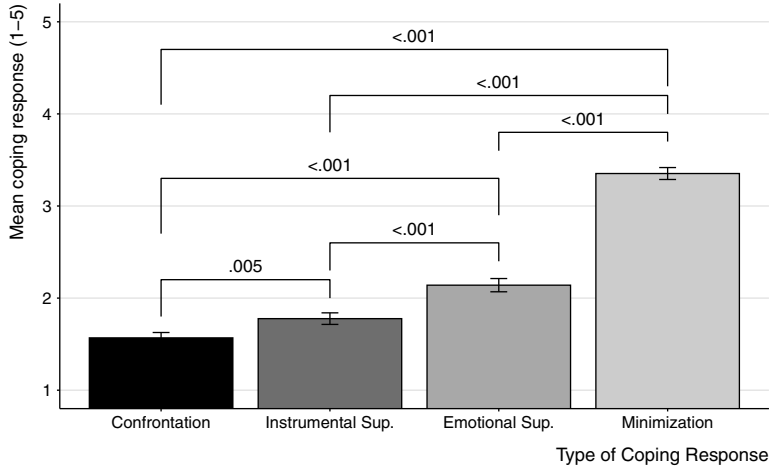
	Factor 1	Factor 2	Factor 3
Ambiguity			
1. I am certain I was excluded.	.00	-.02	**.90**
2. I clearly know that I was ignored or excluded.	-.02	-.04	**.86**
3. I am not sure if I was left out. (R)	-.11	.07	**.48**
Intensity			
1. To what extent do you think what happened to you was severe?	-.01	**.90**	.01
2. To what extent do you think what happened to you was intense?	.02	**.80**	-.03
3. To what extent do you think what happened to you was serious?	.03	**.85**	-.05
Intent			
1. The primary person(s) committed this behavior on purpose.	**.84**	-.05	-.04
2. The incident was accidental. (R)	**.71**	.00	-.13
3. The primary person(s) did not intend for this incident to happen. (R)	**.80**	-.15	-.08
4. The primary person(s) intended to hurt me in some way.	**.71**	.13	.01
5. The primary person(s) was unaware of the implications of their behavior. (R)	**.75**	-.04	.09
6. The primary person(s) was intentionally being rude.	**.70**	.07	-.12
7. The primary person(s) planned this behavior.	**.77**	.14	.09
8. The primary person(s) used their behavior to get something that they wanted.	**.51**	.18	.08

Note. The factor loadings higher than .30 are shown in bold. Letter "R" indicates items that are reverse coded

Which Factors Predict Coping Responses?

See Table 4.2 for descriptive statistics and intercorrelations for all the variables in Study 4.1. We first examined the frequency of using different strategies by comparing the mean score for each coping type. The results of a one-way within subjects ANOVA testing the effect of coping type on mean coping responses revealed a significant effect of coping type on the use of coping response, $F(1.98, 520.98) = 175.10$, $p < .001$. To compare all coping types to each other we ran several pair-wise t-tests with a Bonferroni correction. See Figure 4.1 for a visual depiction of the results of these analyses. The least used coping response was confrontation, and the most used coping response was minimization. Participants reported using instrumental support seeking and emotional support seeking also less than they reported using minimization. The results suggested that avoidance-oriented coping responses – in this case minimization – are more frequently adopted than more approach-oriented coping responses such as confrontation or instrumental support seeking.

Figure 4.1 *Mean Coping Response for Each Coping Type*



Note. *The error bars indicate the standard error of the mean. The p values are based on the results of pairwise t-tests with Bonferroni correction.*

Table 4.2 *Descriptive Statistics and Intercorrelations for All Variables in Study 4.1*

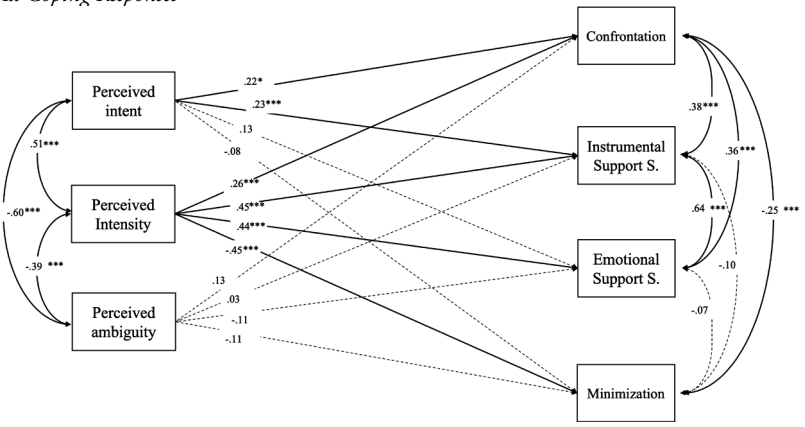
	M	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Perceived intent	3.00	1.00	-										
2. Perceived Ambiguity	2.88	1.41	-.60***	-									
3. Perceived Intensity	1.91	0.95	.51***	-.39***	-								
4. Workplace Ostracism	1.77	0.71	.28***	-.26***	.35***	-							
5. Self-efficacy	4.00	0.61	.18**	-.11	.04	-.07	-						
6. Confrontation	1.57	0.93	.28***	-.09	.30***	.07	.11	-					
7. Emotional Support S.	2.14	1.16	.39***	-.34***	.52***	.18**	-.01	.42***	-				
8. Instrumental Support S.	1.78	1.01	.45***	-.29***	.55***	.23***	.07	.47***	.74***	-			
9. Minimization	3.35	1.04	-.18**	.07	-.40***	-.03	012	-.32***	-.27***	-.28***	-		
10. Gender (0 = female)	0.51	0.50	.12	-.05	.04	.12	.13*	.22***	-.06	.02	.04	-	
11. Age	35.96	11.92	.07	-.10	.13*	-.04	.03	-.04	.01	-.02	-.05	.10	-

Note. Due to the non-normality of some of the variables we report spearman correlation coefficients. Emotional Support S. = Emotional Support Seeking, Instrumental Support S. = Instrumental Support Seeking. *** $p < .001$, ** $p < .01$, * $p < .05$.

We then investigated what predicts coping responses. We used the sem() function in the R package lavaan (Rosseel, 2012) to conduct the SEM analyses (with Maximum Likelihood estimation with robust standard errors, i.e., "MLR" estimator method) and report 95% BCI standard errors and *p* values (1000 bootstrap). For each endogenous variable an error term was automatically created by lavaan and its error variance was estimated while constraining the path loading to 1.0. The endogenous variables were allowed to covary. Here we present models built with manifest variables since we already investigated the underlying factor structures of the relevant constructs. In testing the relationship with appraisals and coping responses we controlled for the effect of gender and age on coping responses because one's gender and age may relate to their experience of and coping with mistreatment in the workplace (e.g., Cortina et al., 2002; Hobfoll et al., 1994; Ólafsson & Jóhannsdóttir, 2004). Additionally, given that previous experience of mistreatment can impact how one copes with it (e.g., Cortina & Magley, 2009), we also controlled for the effect of previous experience of workplace ostracism on all coping responses. Finally, given its influence on coping responses (e.g., Haney & Long, 1995; Herman et al., 2018; Schaubroeck et al., 2000), we also controlled for the effect of general self-efficacy (G. Chen et al., 2001).

In our model we included direct paths from perceived intensity, intent, and ambiguity to each of the coping responses (see Figure 4.2 for the simplified visual depiction of the model with loadings) and paths from the control variables (i.e., gender, age, self-efficacy, WOS) to coping responses. Since we identified every possible relationship there were no degrees of freedom, and the model was overidentified, χ^2 = 0.00, *df* = 0.00, *p* = NA, CFI = 1.00, TLI = 1.00, RMSEA = .000, SRMR = .000, AIC = 8084.23, ECVI = .512. The results pertaining to paths between appraisals and coping responses revealed a complex pattern of relationships between the constructs. Perceived intensity was directly related to all coping responses. Attributions of intent was directly related only to confrontation and instrumental support seeking, and to perceived intensity. Finally, perceived ambiguity was not directly related to any of the coping responses. The results also revealed that perceived intensity and intent were positively correlated, and both were negatively correlated with perceived ambiguity.

Figure 4.2 *Manifest Model with Direct Effects from Appraisals of Workplace Ostracism to All Coping Responses*



Note. For sake of simplicity, we left out the paths from control variables to the outcome variables (age, gender, self-efficacy, and WOS). *** $p < .001$, ** $p < .01$, * $p < .05$.

Discussion

The results of the EFAs on appraisals suggested that the best solution was a three-factor one differentiating perceived intensity, intent, and ambiguity. This supports previous theorizing such that targets seem to be able to distinguish the researcher-defined dimensions in appraising their experiences of being ostracized at work. We also used SEM to understand the relationship between targets' appraisals and their coping behavior. Perceived intensity had the largest (and direct) relationship on all coping responses. Although participants reported mostly using minimization (an avoidance-oriented coping response), the targets who appraised the situation as more intense and (to a lesser extent) as more intentional were more likely to also use other, more approach oriented, coping responses such as confrontation.

Studies 4.2.1, 4.2.2, and 4.2.3

In Studies 4.2.1 to 4.2.3, we manipulated all three of the appraisals –intensity, intent, and ambiguity, in three separate vignette studies and asked participants to indicate how they would cope with these situations. We relied on an experimental method for two main reasons. First, we wanted to test the relationship between appraisals and coping responses without the potential

memory biases of a recall paradigm. Second, we wanted to investigate causal relationships between appraisals of workplace ostracism and coping responses.

Each participant saw a single vignette depicting an incident of workplace ostracism. In separate studies, we manipulated the extent to which the experiences in the vignettes varied (high vs. low) on intensity (Study 4.2.1), intent (Study 4.2.2), and ambiguity (Study 4.2.3). The methods of the studies are identical except for the type of appraisal that is manipulated, and thus, we present these three studies together and highlight the differences when necessary. We investigated how each appraisal (high vs low) relates to each coping response (i.e., confrontation, instrumental and emotional support seeking, and minimization). We also investigated how manipulating each appraisal influences the other two appraisals.

Hence, we were able to investigate three questions in Study 4.2. First, we investigated whether the three-factor solution for appraisals which was observed in Study 4.1 would also be observed in a series of confirmatory factor analyses (CFAs) in Study 4.2. Second, we investigated whether appraisals of workplace ostracism predicted coping responses in ways as we proposed (and in line with Study 4.1). And third, we explored how the manipulation of one appraisal impacted the other two appraisals. We pre-registered our predictions about how the manipulated appraisals would impact coping responses based on the results of Study 4.1 and prior theorizing about coping with workplace ostracism (e.g., Ferris et al., 2016; Robinson et al., 2013; Robinson & Schabram, 2017):

Hypothesis 1: Participants in the low intensity condition will report using less confrontation (1a), less instrumental support (1b), less emotional support (1c) and more minimization (1d) as a potential coping response.

Hypothesis 2: Participants in the low intent condition will report using less confrontation (2a), less instrumental support (2b), less emotional support (2c) and more minimization (2d) as a potential coping response.

Hypothesis 3: Participants in the low ambiguity condition will report using more confrontation (3a), more instrumental (3b) and emotional support seeking (3c), and less minimization (3d) as a potential coping response.

Methods

Participants and Design

We powered Study 4.2 based on the smallest significant correlation we observed in Study 4.1 between appraisals and coping (r = -.18, or a Cohen's d = .37). A priori power analysis conducted using G*Power (Faul et al., 2007) for a two-tailed t-test with a p = .0125 (p = .05 Bonferroni corrected for 4 outcome variables), and 80% power revealed that we needed at least 330 participants to detect d = .37. Based on this analysis, we recruited 330 participants online for each study (screening criteria: English as first language, with approval rates > 95%, participated in at least 10 studies on the platform, employed fulltime or parttime) via Prolific UK (Peer et al., 2017). We pre-registered our exclusion criteria as failing 2 of the 3 attention checks or giving the wrong answer to both comprehension checks[14]. Across three studies we excluded some participants because they started the study but did not continue (n = 21), no participant failed the attention checks or comprehension checks. Participants were randomly assigned to either high or low appraisal conditions in each study. The final sample size for Study 4.2.1 was 333 (165 male, 164 female, 4 other, M_{age} = 33.71, SD_{age} = 14.48), for study 4.2.2 330 (162 male, 163 female, 5 other, M_{age} = 35.70, SD_{age} = 10.24), and for Study 4.2.3 it was 330 (166 male, 162 female, 2 other, M_{age} = 36.10, SD_{age} = 11.41). All participants approved the informed consent before starting the study.

Procedure

Each vignette in Study 4.2 started with the same workplace ostracism situation that was adapted from previous work (Fiset et al., 2017). The vignette described a workplace ostracism incident with a colleague named "Alex" as the source. We appended the specific appraisal manipulation (high or low) based on the study (intensity, intent, or ambiguity). For a full list of how we manipulated each appraisal see the Supplementary Materials. An example vignette from the condition of high intensity appraisal (Study 4.2.1) read:

> "You have been working at a new company for a while. One of your colleagues – Alex – is roughly the same age as you, and you both work in similar positions within the organization. After working together with Alex for a while you realize that Alex rarely answers your phone calls or emails. Alex also seems to give you the cold shoulder when you

14 We mistakenly included only two attention checks in Study 4.2.1. We opted to only exclude participants who failed both attention checks in that study.

meet, and you feel like Alex does not usually invite you to after-work events.

This makes you feel ignored and excluded and you think that these behaviors are kind of a big deal. You are bothered by these behaviors."

Measures and Materials

Coping Responses. For coping responses, we used the coping items from Study 4.1 which were retained after the EFA (1 = *not at all,* 5 = *extremely*). We randomized the order of all coping responses. We changed the "primary person(s)" placeholder in Study 1 to "Alex." Finally, we also changed the wording of one of the items (from "*I would make a joke about it to primary person(s)*" to "*I would jokingly say something about it to Alex.*").

Appraisals. We used the same items as in Study 4.1 for perceived intensity and perceived ambiguity as in Study 1[15]. For attributions of intent, we selected three items from the set of items in Study 4.1 (e.g., *"I would think that the primary person(s) committed this behavior on purpose,"* α's = .70 to .90, full results in the Supplementary Materials). We asked about all three appraisals in each study.

Manipulation Checks. The appraisal questions served as manipulation checks in each study according to which appraisal was manipulated. For example, for Study 4.2.1, perceived intensity ratings served as manipulation checks for the intensity manipulation (high vs low).

Results for Studies 4.2.1, 4.2.2, and 4.2.3

We first ran CFAs to validate the factor structures that we observed in Study 1 both for the appraisals and the coping responses. For the CFAs we used the R package lavaan (Rosseel, 2012) with maximum likelihood estimation. We report both absolute and incremental fit indices for the CFAs and interpret the results based on the cutoff values proposed by previous work (Hu & Bentler, 1999). Due to the similar pattern of results observed across all three studies, we report the results of the CFAs together. For appraisals of intensity, intent and ambiguity, the three-factor solution observed in Study 1 (see Table 4.1) provided good fit across all three studies (CFIs > .97, RMSEA < .068). For

15 Due to a typo in Study 2.3 in one of the perceived ambiguity items, we relied on two items on that study instead of three. And we calculated a spearman-brown correlation coefficient than Cronbach's alpha (REF).

coping responses, the 4-factor solution also provided good fit across all three studies (CFIs > .95, RMSEA < .066). These findings validated the results of the EFAs conducted in Study 1. Therefore, we retained the factors structure we observed in Study 1 in Study 2 both for appraisals and coping responses.

Manipulation Checks

The manipulation was successful for intensity (t(330.8) = -6.76, p <. 001, d = -.74, 95% CI [-.96, -.52])[16], intent (t(303.76) = -9.14, p <. 001, d = -1.01, 95% CI [-1.24, -.78]), and ambiguity (t(324.75) = -6.96, p <. 001, d = -.77, 95% CI [-.99, -.54]).

Relationship Between Appraisals and Coping Responses

The full set of descriptive and test statistics can be found in Table 4.3. Participants in the high intensity condition reported that they would engage in more confrontation, more instrumental support, more emotional support, and less minimization supporting hypotheses 1a through 1d. Further, when participants read a high intent (vs low intent) ostracism vignette they indicated that they would engage in more instrumental and emotional support seeking and less minimization. Intent to harm did not have a significant effect on confrontation. These results offer support to hypotheses 2b through 2d but not for hypothesis 2a. Finally, participants in the low ambiguity condition reported using more confrontation and more instrumental support seeking. These results support hypotheses 3a and 3b. The level of ambiguity did not have a statistically significant effect on participants' emotional support seeking and minimization response, failing to offer support for hypotheses 3c and 3d.

16 There was a technical error in the perceived intensity and perceived ambiguity question blocks in Study 4.2.1 – intensity. The anchors "slightly" and "moderately" were switched such that "moderately" came before "slightly" instead of the other way around. We report the analyses as if there were no mix up with the anchors. The direction of the results and the statistical significance of the tests remain the same when we recode the variables to reflect the correct ordering of the anchors.

Table 4.3 *Descriptive and Test Statistics for Studies 4.2.1, 4.2.2, and 4.2.3 on All Coping Responses*

	Low	High					
Study 2.1 - intensity	***M (SD)***	***M (SD)***	***t***	***df***	***p***	***d***	**95%CI**
Confrontation	2.37 (1.00)	2.82 (1.03)	-4.09	330.60	<. 001	-.45	[-.67, -.23]
Instrumental Support	2.57 (.98)	3.06 (.99)	-4.57	330.90	<. 001	-.50	[-.71, -.28]
Emotional Support	2.48 (1.02)	2.94 (1.10)	-4.00	329.09	<. 001	-.44	[-.66, -.22]
Minimization	2.92 (.96)	2.51 (1.01)	3.81	330.12	<. 001	.42	[.20, .63]
Study 2.2- intent	***M (SD)***	***M (SD)***	***t***	***df***	***p***	***d***	**95%CI**
Confrontation	2.49 (.94)	2.74 (1.06)	-2.34	323.10	.02	-.26	[-.47, -.04]
Instrumental Support	2.75 (1.06)	3.10 (1.06)	-3.00	328	.002	-.33	[-.55, -.11]
Emotional Support	2.70 (1.07)	3.02 (1.11)	-2.71	327.57	.007	-.30	[-.52, -.08]
Minimization	2.82 (.93)	2.53 (1.03)	2.65	324.76	.009	.29	[.07, .51]
Study 2.3 - ambiguity	***M (SD)***	***M (SD)***	***t***	***df***	***p***	***d***	**95%CI**
Confrontation	2.86 (1.14)	2.56 (.97)	2.57	322.06	.011	.28	[.07, .50]
Instrumental Support	3.28 (1.08)	2.94 (1.03)	2.99	327.87	.003	.33	[.11, .55]
Emotional Support	3.12 (1.02)	2.86 (1.05)	2.34	327.19	.02	.26	[.04, .47]
Minimization	2.44 (1.03)	2.61 (.99)	-1.53	327.96	.13	-.17	[-.38, .05]

Note. The critical alpha value for the confirmatory tests in Studies 4.2.1, 4.2.2, and 4.2.3 is .0125.

Relationship Between Different Appraisals

We also wanted to know how different appraisals were related to one another in the three studies. In Study 4.2.1, participants in the low intensity condition perceived the situation as less intentional ($t(330.16) = -4.38$, $p <. 001$, $d = -.48$, 95% CI [-.70, -.26]), and less ambiguous ($t(330.44) = 3.45$, $p <. 001$, $d = .38$, 95% CI [.16, .59]) than participants in the high intensity condition. In Study 4.2.2, participants who read the low intent vignette perceived the situation as less intense ($t(323.41) = -5.65$, $p <. 001$, $d = -.62$, 95% CI [-.84, -.40]) and more ambiguous ($t(326.88) = 5.65$, $p <. 001$, $d = .62$, 95% CI [.40, .84]) than participants who read the high intent vignette. Finally, in Study 4.2.3, participants in the low ambiguity condition perceived the situation as more intense ($t(327.85) = 5.06$, $p <. 001$, $d = .56$, 95% CI [0.34, 0.78]) and more intentional ($t(327.97) = 3.50$, $p <. 001$, $d = .39$, 95% CI [0.17, 0.60]) than participants in the high ambiguity condition.

Discussion

We conducted Study 4.2.1 to 4.2.3 to confirm and validate the results observed in Study 4.1 and to investigate the causal links between the appraisals and coping responses. First, we confirmed the three-dimensional nature of the ostracism appraisals. Next, most of our confirmatory hypotheses with regards to the relationship between appraisals and coping responses were supported. Participants reacted to high (vs low) intensity and intent in similar ways in terms of most coping responses. More specifically, participants indicated that they would seek more support (both emotional and instrumental) and engage in less minimization both when the situation was characterized by high (vs low) intensity and intent. While high intensity (vs low) also predicted higher confrontation rates, high intent (vs low) did not have a statistically significant effect on confrontation. The level of ambiguity was also related to confrontation and instrumental support seeking but not emotional support seeking and minimization. Intensity appraisals had the largest effect on coping responses overall (average d = .43), followed by intent (average d = .30), and lastly by ambiguity (average d = .26). This pattern is in line with Study 4.1, where only perceived intensity had significant direct relationships with all four coping responses and the sizes of these effects were larger than for the other two appraisals.

General Discussion

To further the understanding of coping with workplace ostracism we conducted four pre-registered studies and studied two questions. First, we asked whether the criteria that are used to define workplace ostracism as a separate construct (i.e., intensity, intent, and ambiguity) would be reflected in targets' appraisals. The findings that people distinguish between the three appraisals related to workplace ostracism offer empirical support for the previously theorized defining features of workplace ostracism (Ferris et al., 2017; Robinson et al., 2013; Robinson & Schabram, 2017). By translating researcher-defined criteria into targets' subjective experience, these findings also contribute to the broader issue of refining the defining criteria of workplace mistreatment (Hershcovis, 2011; Hershcovis & Reich, 2013). Second, we asked how targets' subjective experience of ostracism would relate to these coping responses. The results across both studies revealed that targets engage in more approach-oriented coping (e.g., confrontation) and less avoidance-oriented coping responses (e.g., minimization) when they perceive the ostracism experience as more intense (on all coping responses) and to a lesser extent as more intentional. The

perceived ambiguity of workplace ostracism experience was a weaker predictor of coping responses in relation to perceived intent and more so perceived intensity.

To our knowledge, there was no empirical work on how targets' appraisals of workplace ostracism relate to coping responses at the time of conducting this study. One reason for the lack of such studies may be related to the way in which workplace ostracism is frequently studied. Most often, researchers rely on the very popular Workplace Ostracism Scale (Ferris et al., 2008) to measure the frequency in which various incidents of workplace ostracism were experienced by the participants in the recent past. While this is undoubtedly a valuable method for studying antecedents and outcomes of being ostracized at work, using an alternative approach (i.e., critical incident approach and vignettes) may be more informative for understanding targets' subjective experiences of workplace ostracism and how they cope with such instances. Future work can adopt similar methods to continue investigating how the experience of being ostracized can lead to various behavioral or psychological responses. Alternatively, researchers can also integrate WOS (Ferris et al., 2008) and measure the subjective experience by asking participants to appraise each questionnaire item individually (similar to Nixon et al., 2021).

Previous theorizing about workplace ostracism focused on perceived ambiguity as a defining feature of workplace ostracism (Ferris et al., 2017) that relates to how targets would respond to being ostracized (Ferris et al., 2016; Robinson et al., 2013). Our results paint a slightly different picture. Although perceived ambiguity seems to be a part of how people experience workplace ostracism (as evidenced by the factor structure observed across all studies) its predictive value is lower compared to other appraisals. Knowing for sure that one is excluded may not be sufficient to motivate targets to engage in various coping responses. Instead, targets' coping responses seem more dependent on appraisals of intensity and intent. Coping with workplace ostracism may thus be better understood as stemming from not just ambiguity but also from appraisals of intensity and intent.

Finally, our study results also provide some insights into how targets generally cope with workplace ostracism. In this project targets of workplace ostracism reported coping more with avoidance-oriented coping responses like minimization than approach-oriented coping responses such as confrontation or support seeking. These results suggest that targets usually refrain from talking about being ostracized to others (e.g., confrontation, support seeking) unless

they think the incident was intense or severe. This paints a potentially grim picture given that targets anticipate social costs upon sharing such ostracism experiences with others (Meral et al., 2021). If targets of workplace ostracism choose to minimize and think that talking about it to others is not the best outcome, they could potentially suffer in silence and progress into the so-called resignation stage of ostracism which is characterized by feelings of alienation, depression and loneliness (Riva et al., 2017; Riva, Wesselmann, et al., 2014; K. D. Williams, 2009). Coupled with the fact that workplace ostracism is seen as more socially appropriate than other forms of mistreatment (O'Reilly et al., 2014), these findings highlight the need for organizational policy and practices aiming at dealing with ostracism proactively instead of waiting for targets to speak up.

Limitations and Additional Future Directions

A limitation of the current study is the use of self-report measures in combination with a cross-sectional design in Study 4.1. However, since the current project focuses on targets' subjective experiences, we deemed self-report measures as a viable option (Spector, 1994). Furthermore, in Study 4.2 we have tested the relationships that were observed in Study 4.1 by employing an experimental design. That said, future work can undoubtedly build on these findings by adopting different data sources (e.g., coworkers) or alternative designs such as longitudinal designs to establish causal relationships in alternative ways.

Here we have not compared workplace ostracism to other aggression constructs. For instance, research still must determine whether workplace ostracism is perceived as less intense, or more ambiguous than other forms of mistreatment. There is some relevant evidence (O'Reilly et al., 2014) and theorizing (Ferris et al., 2017) on these differences but a more comprehensive investigation remains to be conducted (for a similar call, see: Robinson & Schabram, 2017). We propose that future work can compare workplace ostracism to other forms of mistreatment to investigate whether (a) whether constructs differ as they are suggested, and (b) whether targets cope with them differently. This could help refine predictions about how targets respond to being the target of various forms of mistreatment at work.

We tested how targets would cope with workplace ostracism by relying on a set of coping responses that differ based on whether they are emotion- vs problem-focused and whether they are approach- or avoidance-oriented. This is not an exhaustive list of coping responses one could engage in after being ostracized at work. Targets could also turn to religion (Aydin et al., 2010), may

resort to eating comfort foods (Troisi & Gabriel, 2011) or watching favorite tv shows (Derrick et al., 2009) to name a few options. Future work can build on our findings and incorporate more coping responses (e.g., C. Carver et al., 1989) to obtain a more comprehensive understanding of coping with workplace ostracism.

Conclusion

This study aimed to offer an empirical investigation of what has long been theorized about the nature of workplace ostracism and the responses of targets. In line with previous theorizing, targets' subjective experience suggested a three-dimensional structure based on perceived intensity, intent, and ambiguity. Crucially, these dimensions were related to how targets choose to cope with workplace ostracism. While intensity, and to a lesser extent, intent emerged as direct predictors of coping responses, the explanatory power of perceived ambiguity was lower than the other appraisals. These findings suggest that the researcher-defined dimensions of workplace ostracism do indeed resonate with targets, but also stress that explicitly measuring these dimensions is necessary to refine predictions on behavioral outcomes.

BASED ON:

Meral, E. O., Rosenbusch, H., Kip, A., Ren, D., van Osch, Y., van Dijk, E., van Beest, I. (2022). *Social Ball: An immersive research paradigm to study social ostracism*. psyArXiv. https://doi.org/10.31234/osf.io/v8kwx

All data, analysis scripts and pre-registration files are at the Open Science Framework (https://osf.io/zfqax/)

Chapter 5

Social Ball: An immersive research paradigm to study social ostracism

Abstract

We introduce "Social Ball," a new research paradigm to study ostracism via an online ball tossing game based on Cyberball (K. D. Williams & Jarvis, 2006) designed with both researchers and participants in mind. For researchers, the game incorporates a variety of features which are easily accessible from the software's interface. Some of these features have already been studied with Cyberball (e.g., tossing different objects) but some are novel (e.g., end-game communication or hand-waving during the game). From the participants' perspective, the game was designed to be more visually and socially immersive to create a more video-game-like online environment. We discuss two previous implementations. Study 1 showed that Social Ball successfully induced need threat and negative affect among ostracized (vs included) participants (n = 247). Study 2 empirically demonstrated how a new feature of the game (i.e., hand-waving) can be used to answer various questions. The results suggested that people waved their hands to varying degrees yet the frequency of which was not associated with post game need satisfaction (n = 2578). Besides describing the features of the game, we also provide a configuration manual and an annotated R code (both as supplementary materials) to make the paradigm and associated analyses more accessible, and in turn, to stimulate further research. In our discussion, we elaborate on the various ways in which Social Ball can contribute to the understanding of belonging and ostracism.

People have a strong need to belong and thwarting this need is a negative experience (Baumeister et al., 2007; Baumeister & Leary, 1995; K. D. Williams, 2007). Ostracism happens when an individual (i.e., the target) is ignored or left out by others (i.e., the sources) (K. D. Williams, 2007) and it threatens the needs for belonging, control, self-esteem, and meaningful existence (Baumeister & Leary, 1995; K. D. Williams, 2007, 2009). Besides the threatened needs, researchers have identified various negative effects of being ostracized throughout one's lifespan from childhood (Buhs & Ladd, 2001; Hawes et al., 2012) well into adulthood (Abrams et al., 2011; Rudert, Janke, et al., 2020) including it being a risk factor for depression (Riva et al., 2017; Rudert et al., 2021).

Drawing causal conclusions of the impact of ostracism requires experimental methods. And to experimentally induce feelings of ostracism, researchers need effective, valid, and easy-to-implement paradigms. In the current paper, we present such a paradigm. Our experimental paradigm, Social Ball, builds on the widely used paradigm, Cyberball, while addressing its several shortcomings. Social Ball is open-access and freely accessible via a web application. We introduce Social Ball in two steps: first, we describe the features of the program. Second, we present analyses from two data sets to showcase the effectiveness of the paradigm and its potential for investigating open questions in the field of ostracism. Additionally, to increase the program's accessibility to researchers, we provide a manual for configuration of various scenarios within the game, and an annotated R script data formatting and commonly conducted analyses (supplementary Material 2 [SM2] and 3 [SM3] respectively at: https://osf.io/zfqax/).

Why is Ostracism Negative

In the past couple decades, researchers identified many negative outcomes of various belonging threats such as ostracism. These threats to belonging can induce social susceptibility (Carter-Sowell et al., 2008); increase conformity (Knapton et al., 2015; Riva, Williams, et al., 2014), and openness to extremism (Hales & Williams, 2018); impair self-regulation (Baumeister et al., 2005) and cognitive functioning (e.g., Buelow et al., 2015; Hawes et al., 2012), reduce intelligent thought (Baumeister et al., 2002); and increase financial risk-taking (Duclos et al., 2013). Being ostracized negatively impacts individuals in various contexts, for example at work and in school. For example, organizational researchers showed that being ostracized at work is associated with poor job satisfaction (De Clercq et al., 2019; Ferris et al., 2015), increased job turnover (O'Reilly et al., 2014); increased likelihood to engage in unethical (Kouchaki

& Wareham, 2015) and counterproductive behavior (Yang & Treadway, 2018; Zhao et al., 2013). In a similar vein, research in academic contexts shows that threats to belonging can lead to poorer academic performance (Cursan et al., 2017), impaired school adjustment (Buhs & Ladd, 2001), and behavioral or emotional problems (Hoglund et al., 2008). Experiencing belonging threats for extended periods of time is generally considered a risk factor for psychological distress (Beeri & Lev-Wiesel, 2012), and can have long-term psychological effects that stretches into later in life (Lev-Wiesel et al., 2006). To summarize, threats to belonging can have negative, serious, and long-lasting effects on the targets thus demonstrating the need for understanding the phenomena further.

The Existing Research Paradigms to Study Ostracism

Past research utilized various paradigms to manipulate people's belonging status (for a review, see: Wirth, 2016). Examples include asking participants to recall past incidents of being rejected (e.g., Knowles & Gardner, 2008; Pickett et al., 2004), giving participants bogus feedback about how one will lead a lone life (e.g., Baumeister et al., 2002; Twenge et al., 2001), leaving participants out of conversations in chat rooms (e.g., Rudert et al., 2018; Smith & Williams, 2004), liking participants' posts on social media less (e.g., Ruff et al., 2014), or using hypothetical scenarios where people are asked to imagine being excluded (e.g., Hales et al., 2020; Meral et al., 2021).

To experimentally study and induce belongingness threats, many researchers employ an online ball-tossing paradigm called Cyberball (K. D. Williams & Jarvis, 2006). Each person plays the Cyberball game on an individual computer and toss a ball around with others. In most cases the game is presented as a mental-visualization exercise and participants are encouraged to imagine tossing the ball around with other people in real life. This setup is then used to make participants feel included or ostracized based on the number of ball tosses they (do not) receive from the other players. For this purpose, participants – while believing they play the game with other human players – play the game with pre-programmed avatars that throw the ball based on the experimental manipulation. In the inclusion version of the game each player receives the ball an equal number of times; and in the exclusion version of the game excluded players receive the ball a few times in the beginning and never after. This paradigm has been used extensively in ostracism research to induce feelings of inclusion or exclusion. A meta-analysis based on 120 Cyberball studies showed that the average effect size for studies comparing the inclusion and ostracism conditions were $|d| = 1.4$ (Hartgerink et al., 2015).

Over the years, researchers have applied variations to this online ball-tossing game to adopt it to their research questions. For instance, researchers have used a version where getting the ball costs money to see if participants still feel hurt when inclusion is costly and ostracism is rewarding (€yberball, van Beest & Williams, 2006). In other variations the ball that was tossed around was visually depicted as a bomb to investigate the impact of exclusion when being included in the game implied survival threats (van Beest et al., 2011), or as a virus to examine the effect of ostracism when cues of infectious disease were present (Ren et al., 2022). Yet another version enabled participants to claim the ball by clicking on other player's avatars, which allowed the researchers to study the effects of claimed (vs granted) inclusion (de Waal-Andrews & van Beest, 2012). Additionally, researchers have used versions in which they manipulated the social information participants received about the other players in the game, allowing them to study the effects of group membership or stigmatization on belonging (e.g., Goodwin et al., 2010; Sacco et al., 2014). Taken together, these studies illustrate how variations to this online ball-tossing game can help researchers study a broad range of variables that may impact the processes involved in ostracism and inclusion.

However, there are only limited features that users could quickly implement using Cyberball such as the number of players, the tossing schedule, changing character names and so on. Beyond these features, users are required to take some extra steps to modify the game to meet their needs. To illustrate, to incorporate different objects or avatars to the game, the user would need to have a picture of the objects or six different avatar pictures (to be used for the different positions of the avatar such as throwing, catching etc.). This method could offer more flexibility to the user who has access to such pictures (e.g., six different pictures for the potential avatar). That said, if a user wants to incorporate multiple different avatars, the number of different pictures the user needs would quickly increase. Moreover, adopting some of the features that were used in previous versions of Cyberball would require the researcher to program these features into the software themselves (e.g., throwing multiple objects).

Introducing Social Ball

Here, we introduce a novel paradigm to study social ostracism: Social Ball. Social Ball builds on the structure of Cyberball (i.e., an online ball-tossing game), but improves Cyberball in two important ways. First, from the perspective of researchers, Social Ball is designed to provide researchers with great accessibility and flexibility with user-specific modifications. Researchers

who do not have any programming skills are able to easily implement a range of features simply using the software's interface. These features include the small variations which have been implemented in past studies. For instance, researchers can select to create a group of avatars (or let participants choose their avatars) from the set of available 12 avatars to study group membership (e.g., Goodwin et al., 2010; Sacco et al., 2014). Alternatively, researchers can select from three available objects (a bomb, a banana, or a ball) to be thrown around to study the effects of inclusion or exclusion from different objects (van Beest et al., 2011). Importantly, besides incorporating some variations studied in prior research, Social Ball also includes new features that allow researchers to investigate novel research questions. For example, Social Ball enables players to wave their hands during the game and has a post-game communication screen. These features can enable researchers to study the effects of interpersonal communication both during (non-verbal via hand-waving) and after the game (verbal via the communication screen). In brief, the modifications researchers often look for and have yet to implement in Cyberball are straightforward and simple to implement in Social Ball. Thus, Social Ball presents a great potential for exploring new research questions while improving the user experience of the researchers.

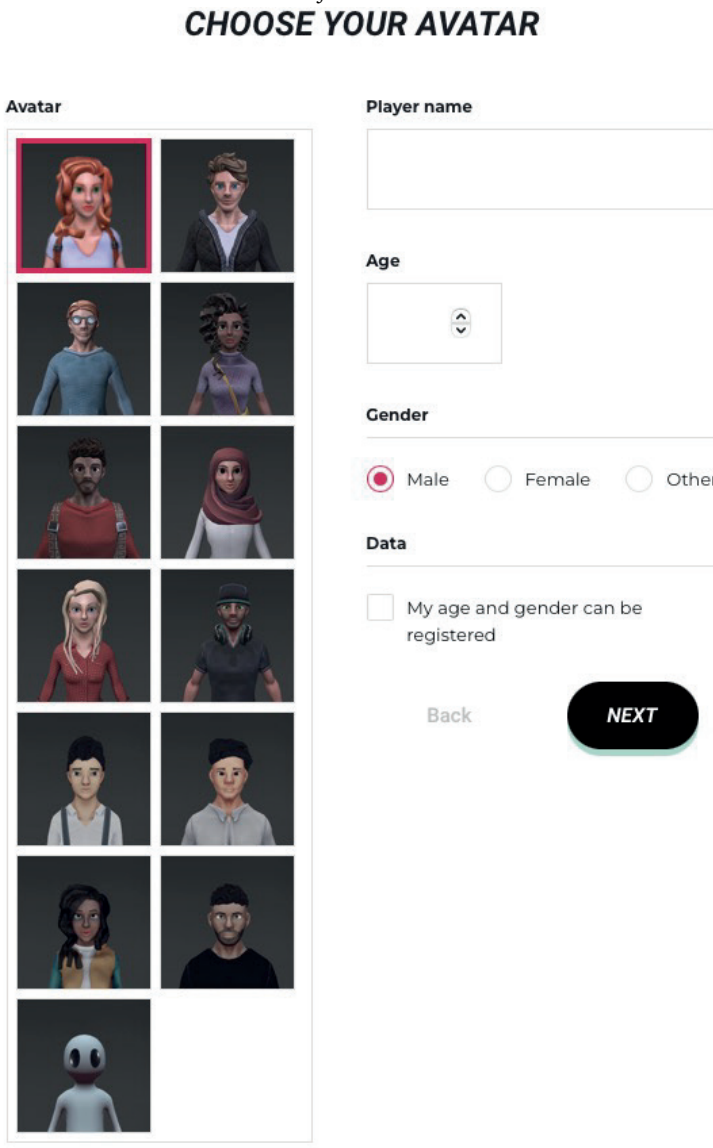
Second, from the perspective of participants, Social Ball is designed to improve their experience by creating an immersive, video-game-like online environment. Compared to Cyberball which was purposefully designed to be a minimal paradigm, Social Ball creates an immersive environment both visually and socially. Visually, Social Ball has 3D graphics, different backgrounds to choose from (school yard and beach) and animated character avatars which make it a more visually immersive experience than Cyberball which has 2D graphics. Socially, the software allows researchers to create lobbies in which participants can seemingly play the game together (i.e., see each other's avatars and nicknames in the same game). We believe that this lobby feature makes the game more socially immersive by increasing the credibility of the (simulated) multiplayer aspect of ball-tossing than other versions that solely rely on telling participants that they play the game together. Taken together, with a variety of features and a more immersive experience (both visual and social), Social Ball can provide participants with a more video-game-like online environment and potentially improve their engagement in studies.

Features of Social Ball

Number of Players and Avatar Choice

A participant can play the game with two to five more players (i.e., three to six players in one session). Upon following the link to the game, participants first see the entry screen in which they are asked to choose from eight different avatars (see Figure 5.1). The avatar selection can also be disabled so that the participants play the game with pre-assigned avatars. As opposed to the minimal nature of Cyberball (K. D. Williams & Jarvis, 2006), the avatars in Social Ball are fully animated characters that vary in terms of race and gender representation. We also incorporated an avatar that is devoid of such characteristics to allow for researchers to manipulate belonging status without referring to the race or gender of the other players in a method more akin to the traditional use of Cyberball.

Figure 5.1 *The Avatar Selection Screen of Social Ball*



Note. The introduction screen of the game in which participants are asked to select their avatar, indicate their name, age, and gender.

These avatars are then displayed within the game in a circle. The participant's avatar is displayed at the bottom of the screen in the center (See Figure 5.2 for an example configuration). The Admin (e.g., the researcher) can also predetermine the name and the avatars of the other (simulated) players that will be displayed in the game.

Figure 5.2 *Screenshot From an Example Game*

Note. A screenshot from an example game. The participant's avatar is at the center of the screen with their back to the camera. Their name ("HumanPlayerName) is displayed within the black rectangle. The other avatars belong to the other (simulated) players with names displayed within white rectangles above their heads. These avatars are created by the admin and are displayed in a counterclockwise manner. The numbers below the avatars are counters, indicating how many times the avatar has received the object. The game depicted here uses the beach background. The red line at the bottom appears after a while if the participant does not throw the object around to alert them that they have the object and can click on a player to throw it.

Lobby Feature

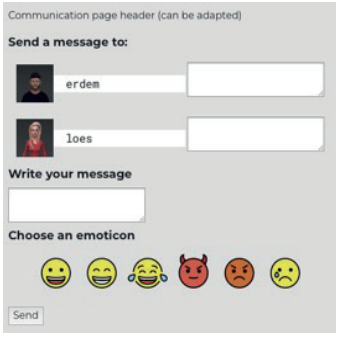
Most paradigms aiming to manipulate belonging status, including various versions of Cyberball, rely on a certain level of deception. In these versions participants are usually led to believe that they are logging into the game with other participants. In the Social Ball game, we added a Lobby feature that can

increase the belief of actually playing with other players, thus creating a more socially immersive environment. In this version, participants are first directed into a lobby. In this lobby, participants see the list of other participants that are waiting for the game to start. When there are enough participants in the lobby, the experimenter or the session leader can start the game. Then participants that are in the lobby are randomly matched together to play the game. The participants that are directed into a game, in turn, see the nicknames and avatar choices of each other. If there is a lack of participants (e.g., there are only four participants for a six-person game), the game automatically fills in those spots with avatars pre-created by the admin. In the lobby version participants see the names and avatars of the other participants but they still play the game configured by the admin (i.e., there is only one actual human player per game). To illustrate, think of a researcher creating an ostracism scenario with four players (i.e., the participant gets the ball only for the first few rounds and never after) using the lobby feature. If the researcher were to recruit four participants to play the game, they would all see the actual avatar choices and nicknames of other participants displayed on their screen. The toss sequence of the objects, however, would follow the schedule set by the admin instead of participants actually playing a multiplayer ball-tossing game. Thus, each participant would play a scenario in which their own avatar is ostracized from the ball tossing game by the other participants in the game. We believe that this setup may increase credibility and involvement, especially when participants already know each other (e.g., students in a classroom) or if they go through a get-to-know paradigm beforehand.

Post-Game Communication Screen

There is a post-game communication screen that simulates a situation in which all players are seemingly allowed to send each other a one-shot text message. In reality, only the participant can send a message but the messages from other players are configured by the admin. After the game, participants first see a screen in which they are asked to send a message either individually to each player or to the whole group as a broadcast (a text message and/or emoticons). Note, however, that there is no actual communication between players because it is not a real multiplayer game. The purpose of this screen is to simulate a post-game communication situation in which the admin can set the features that are enabled in this communication. The instructions in the communication screen can be adjusted. This chat simulation is also pre-programmable such that the admin can determine what, if any, text messages and emoticons other players will send (Figure 5.3). Any message sent by participants will automatically be recorded in the game data.

Figure 5.3 *Screenshots From the Post-Game Communication Screen*



Note. The screenshot on the left (5.3.a) is the screen in which the participants can send messages to other players. Participants can also choose one emoji to send. After sending, participants see the second screen (on the right 5.3.b.) in which they see the messages sent by other players.

Waving and the "Anxiety" Function

During the game participants can wave to other players as a signal that they would like to receive the ball, by clicking on other players (akin to Claimball, de Waal-Andrews & van Beest, 2012). Researchers can also determine the waving frequency of other players in the game by setting the *Anxiety* function to a number between zero (no waving) and one (frequent waving). Participants' waving behavior is recorded in the data and can be utilized to investigate various questions such as whether asking for the ball impacts need satisfaction in post-game measures.

The Exit Button

Previous research shows how some individuals choose to seek solitude after being excluded (Ren et al., 2016, 2020). Such a withdrawal response can be enabled in Social Ball through the exit button. Admin can choose to activate an exit button which then will be shown on the upper-left corner of the screen (see the upper-left corner of Figure 5.2). If activated, participants can leave the game before the game ends by clicking this button. The time at which a participant leaves the game is recorded in the dataset. Participants who exit will be directed to whichever is the next stage set by the admin (e.g., the communication screen, questionnaires, etc.).

Object Type, Number, and Counter

Researchers can determine if participants will be throwing around a ball like the Cyberball game (K. D. Williams & Jarvis, 2006), a bomb like the Cyberbomb game (van Beest et al., 2011) or a banana. Additionally, researchers can also choose to incorporate two objects to be tossed around simultaneously in the game with various throw schedules. Moreover, researchers can also activate an object counter that will be displayed underneath the avatar of each participant (See Figure 5.2). This counter will count each object toss that the participant receives.

Linking In-Game Behavior to Post-Game Measures

In Social Ball, researchers can choose to create a unique ID for each participant which is then presented to the participant on screen at the end of the game. In a previous implementation of Social Ball (the study on manipulation effectiveness below), we asked participants to manually enter this code to a survey software after playing the game. This ensured that all participants were playing the game until the end even if they were not getting the ball. This feature also enables researchers to link in-game behavior of participants to any post-game measures. We also share the JavaScript code that would enable researchers to seamlessly pipe this unique ID into a new variable in Qualtrics (a common survey software). This can minimize participant errors that could occur when copy-pasting IDs.

Other Customization Options

The software has some features that would allow further customization. The user can incorporate an intro and an exit page with customizable text. The introduction page would then be the first page that the participants will see upon following the link to a specific scenario. Similarly, if enabled, the exit page can also be customized and would be displayed to the players at the end of the game. Importantly, the object throw sequence can be fully customized. Besides being able to customize the throwing sequence between simulated players (e.g., player 2 throws to player 3, then player 3 throws to the participant), the admin can also change the delay for each toss individually or on average for all tosses within the game. More information about customization and related visuals can be found in the configuration manual.

Accessibility

Social Ball is a web app, and once the game is hosted on a server, researchers can use it simply through a web browser both to create scenarios (e.g., inclusion vs ostracism) but also to start a game or to lead participants to a certain scenario.

The version that a participant will see can be embedded in a web page through an iFrame (thus also in a survey software like Qualtrics). To be able to use the game in full capacity, researchers will need to host the game on the servers of their institution or via private hosting companies. Hosting the game gives full control and access to the researchers and enables them to have access to the data that is generated within the game (i.e., the ball tosses and so on).

There are several basic versions of the game that are publicly available. Researchers can go to the OSF page associated with this manuscript (in the configuration manual at https://osf.io/zfqax/) to access a 3- or 4-player version with the minimalistic avatar (i.e., the alien avatar). These versions can be used by researchers who are interested in just manipulating the belonging status (inclusion vs ostracism) in a way that is commonly done so with Cyberball (K. D. Williams, 2009; K. D. Williams & Jarvis, 2006). Researchers can use these basic versions to manipulate ostracism/inclusion within their own research without hosting the game on a server.

In our configuration manual (see SM2), we also share information that would helpfully make it easier to (a) host the game on a server, (b) set up an iFrame on Qualtrics, and (c) link the survey with the game to make using the game easier.

Overview of Previous Implementations

In the current paper we discuss two previous implementations of Social Ball. First, we use a data set from a study previously conducted in our lab which used Social Ball to make participants feel ostracized and included for another project. We used this dataset to test the effectiveness of Social Ball and show that the paradigm can be used to induce feelings of ostracism and inclusion reflected by participants' post-game need satisfaction and affect. Second, we report a secondary analysis of data provided to us by a Dutch non-profit organization (Critical Mass) that used Social Ball in a social skills training program. We used this data set to demonstrate how certain features of the paradigm (e.g., hand-waving) can be used to answer various research questions. Additionally, we created the annotated R code based on the formatting and analysis of this data (SM3).

Study 5.1: Manipulation Effectiveness

Here we presented an implementation of Social Ball in which we compare an ostracism (i.e., only getting the ball a few times in the beginning) and an inclusion condition (i.e., getting the ball a similar amount with the rest of the players). We compared the experiences of participants in these two conditions to see if Social Ball could effectively manipulate ostracism and inclusion.

Methods

Participants and Design

Participants were psychology students at a major Dutch university and were recruited as part of a larger study using Social Ball. Following the preregistration of the original study (Study 3.3 in Chapter 3), we removed participants from the analysis who failed both attention checks that were embedded in the survey (n = 3). The final sample consisted of 247 participants (204 F, 40 M, 3 other; M_{age} = 20.48, SD_{age} = 3.05, range = 18-41). Participants were randomly assigned to an inclusion (n = 130) or an ostracism condition (n = 117) in a four-player version of Social Ball.

Procedure

Participants arrived at the laboratory for the experimental session that they registered for online. When all the registered participants arrived at the lab (group size up to 12), the session leader followed a script to deliver a cover story. Specifically, we told the participants that we developed a new web game (i.e., Social Ball) to be used in a social skills training and that they would be testing it and providing us with feedback. We explained that the game was interactive and that they would be playing it with other participants. We provided each participant with a randomly generated numerical code printed on a small piece of paper (i.e., the matching code) and explained that this would be used to match participants with each other to play the game together[17]. After describing the study, we asked each participant to take a seat in an individual cubicle with a computer in which the informed consent page of the survey was on the screen. After providing their consent, participants needed to enter the matching code that supposedly linked them with another participant. Next, participants played the Social Ball game with three other players and, depending on the condition, they were either included or ostracized by other

17 This process can now easily be carried out by using the lobby feature of the game. At the time of the experiment, the version of the Social Ball did not yet have the lobby feature.

players. We told them that they were playing with other participants but, in reality, the other (simulated) players were pre-programmed to either include or ostracize the participant. Following the Social Ball game, participants reported their need satisfaction and affect. Next, we asked participants to evaluate the Social Ball game as part of our cover study. Finally, participants answered demographics questions and were debriefed before leaving the lab[18]. Participants were able to take the complete survey either in Dutch (n = 132), or in English (n = 115).

Materials

Manipulation Check. Following previous work (K. D. Williams, 2009) we used two sets of items to serve as the manipulation check. First, we used two items to check whether participants felt more ostracized in the ostracism condition than in the inclusion condition (*"I was ignored," "I was excluded;"* 1 [*not at all*] to 5 [extremely], $r_{\text{spearman-brown}}$ = .89). Second, we asked participants to indicate what percentage of the ball tosses they thought they received during the game and participants indicated their answers by writing down the answer in numbers to the provided text box.

Shortened Need Satisfaction Questionnaire. We used the shortened version of the Need Satisfaction Questionnaire (Ren et al., 2016) which contained 12 items in total. The scale consists of three items for each need which were then averaged to a single need score, namely: need for belonging (e.g., "*I felt disconnected* (R)," α = .92), need for self-esteem (e.g., "*I felt liked*," α = .86), need for meaningful existence (e.g., "*I felt invisible* (R)," α = .89) and finally, need for control (e.g., "*I felt powerful*," α = .79). Participants indicated their answers on a rating scale ranging from 1 (*not at all*) to 5 (*extremely*). Finally, we also calculated the mean score for all responses based on 12 items to a single overall need satisfaction score (α = .93).

Emotions. We asked participants to indicate how they felt during the game with three items. Participants indicated how hurt ("*I felt hurt*"), angry ("*I felt angry*"), and sad ("*I felt sad*") they felt on a rating scale ranging from 1 (*not at all*) to 5 (*extremely*).

Attention Checks. We used two attention check items. One item was asking participants to select a specific answer ("*Please select three*"). The other

18 As mentioned, Study 5.1 was part of a larger study for another project. We report all the measures and manipulations relevant for this project here.

attention check item was a paragraph explaining participants to ignore the question at the end of the paragraph and select another answer instead, akin to instructional manipulation checks (Oppenheimer et al., 2009).

Results and Discussion

Studies using Cyberball and relying on the Need Satisfaction Questionnaire as a post-game measure (e.g., Bernstein Dr. & Claypool, 2012; de Waal-Andrews & van Beest, 2012; Sleegers et al., 2016; K. D. Williams et al., 2000; Zadro et al., 2004) find that, compared to the inclusion condition, participants in the ostracism condition (a) feel more rejected, (b) perceive to have received less ball tosses, (c) experience less need satisfaction in each separate need and (d) experience overall less need satisfaction. Additionally, work on various forms of ostracism and rejection also highlight (e) sadness, anger, and hurt as emotions as a result of being ostracized (e.g., Çelik et al., 2013; Chow et al., 2008; Leary, 2015; Leary et al., 1998).

The results are consistent with these findings and the full set of results, and the descriptive statistics can be found in Table 5.1. Participants in the ostracism condition (a) felt more rejected and (b) perceived to have received less ball tosses than the participants in the inclusion condition. Importantly, compared to participants in the inclusion condition, participants in the ostracism condition experienced less need satisfaction across all individual needs (c) and on the (d) overall need satisfaction measure, and (e), participants felt more sadness, hurt, and anger. Taken together, these results support the effectiveness of Social Ball in manipulating ostracism and inclusion in ways similar to traditionally adapted paradigms like Cyberball (K. D. Williams & Jarvis, 2006). In previous research, the average effect size on post-game need threat questionnaires was $|d| = 1.4$ (Hartgerink et al., 2015). Here, most of the observed effect sizes are around this size or larger (see Table 5.1).

Table 5.1 *Descriptive Statistics and t-test Results in Study 5.1: Manipulation Effectiveness.*

	Exclusion	Inclusion				
Outcome Variables	***M (SD)***	***M (SD)***	***t***	***df***	***d***	**95%CI**
Belonging	2.32 (0.80)	4.56 (0.57)	-25.15	206.19	-3.26	[-4.18, -2.88]
Self-Esteem	2.31 (0.67)	3.40 (0.71)	-12.47	244.45	-1.58	[-1.87, -1.30]
Meaningful Existence	2.62 (0.87)	4.54 (0.66)	-19.35	214.96	-2.50	[-3.83, -2.17]
Control	1.32 (0.41)	2.25 (0.74)	-12.27	206.65	-1.52	[-1.80, -1.24]
Need Satisfaction	2.14 (0.50)	3.69 (0.43)	-25.96	230.97	-3.33	[-3.72, -2.95]
Sadness	2.21 (1.12)	1.10 (0.30)	10.42	131.07	1.39	[1.11, 1.67]
Hurt	2.48 (1.23)	1.18 (0.42)	10.90	140.46	1.45	[1.17, 1.73]
Anger	2.03 (1.09)	1.17 (0.47)	7.95	153.89	1.05	[0.78, 1.32]
M.C. Rejection	4.04 (0.81)	1.35 (0.57)	29.97	205.08	3.89	[3.46, 4.31]
M.C. Ball Tosses	10.13 (4.87)	24.94 (6.21)	-20.87	238.73	-2.64	[-2.97, -2.29]

Note. M.C. stands for manipulation check. All results reported were statistically significant at $p < .001$.

Study 5.2: Empirical Demonstration of New Features

Here we use a data set provided to us by the Dutch non-profit organization (Critical Mass) to demonstrate how a specific feature of the game can be used to answer certain research questions. Critical Mass used the Social Ball game as part of a training program that relies on experiential learning principles. Programs relying on experiential learning usually use a combination of first-hand experience and follow-up discussions to encourage developing new perspectives on various subjects (Kolb, 2014a; Lewis & Williams, 1994). The non-profit organization used Social Ball to let students experience how it feels to be ostracized. This initial experience was then used as a basis for learning in the debriefing and discussion sessions[19]. This data set only contains participants who were ostracized because the non-profit organization's goal use case did not require them to make people feel included.

We use this data set to explore how hand-waving in the game can be utilized by researchers to understand the effect of an in-game behavior on post-game need satisfaction. To that end, we describe the hand-waving behavior of the

19 For a more detailed explanation of how similar online ball-tossing paradigms can be utilized in experiential learning programs, see Meral et al., (2022).

participants in this data set and we conduct some analyses to showcase how it can be used to test various questions. We corroborate these analyses with an annotated R code (see SM3) to make conducting these analyses more accessible.

Methods

Participants and Design

The data set consisted of 4415 participants. We cleaned the data in several ways (such as applying an age restriction and limiting the analysis to data between certain dates) to ensure that we did not incorporate test runs of the paradigm (see the Rmarkdown [SM3] file for detailed explanations on this procedure). The remaining sample consisted of 2578 participants (female = 418, male = 498, no response = 1623, other = 39, M_{age} = 13.47, SD_{age} = 1.44). Because this was a training program that was focused on the experience of being ostracized, the participants were all assigned to the ostracism condition (i.e., receiving the ball only a few times throughout the whole game).

Procedure

The non-profit organization conducted their training program in classrooms. All students were provided with tablet computers to participate in the training. After a brief introduction, participants were all given a lobby code that led them to the online lobby version of the game. This meant that when the session started, Social Ball automatically connected students with each other in teams of six. After choosing their game name and avatar, these six students saw each other's names and avatar choices on the game screen in a display. Even though each student was seemingly playing with a peer, the actual ball-tossing schedule was preprogrammed to ostracize each participant. To each participant it looked like they received the ball only a few times throughout the game. Participants were able to wave to other players to ask for the ball, but this had no actual effect on the ball-tossing schedule (i.e., the behavior of the other players). The ball-tossing part of the game finished after about a total of 30 tosses. Next, each participant answered the post-game questions about need satisfaction, emotions, and two open-ended questions about potential behavioral reactions[20]. Afterwards, the training program continued with the discussion that focused on the experience of being ostracized in the Social Ball game. Note that the non-profit organization provided us a data set that

20 We only discuss the questions about need satisfaction and emotions. For the text of the open ended questions, see SM1.

did not contain any personally identifying information, or data pertaining to the training program. What we are reporting here solely focuses on the use of Social Ball.

Measures and Materials

Need Satisfaction Questions. Participants answered a shortened version of the Need Threat/Satisfaction Questionnaire (K. D. Williams, 2009) that included one-item per need. Such single-item versions of the questionnaire have been used in previous work with younger populations (Abrams et al., 2011). Participants read "I felt like I belonged to the group during the game," for belonging; "I felt visible during the game," for meaningful existence; "I had the feeling that other players liked me" for self-esteem; "I felt that I had control during the game," for control. Participants indicated their answers on a 5-point scale (1 = *not at all*, 5 = *very much*). We created a need satisfaction index by calculating the mean score of the four individual needs (α = .83).

Sadness and Anger. Participants reported their level of anger with the item "I felt angry during the game," and sadness with the item "I felt sad during the game"[21] (1 = *not at all,* 5 = very much).

Demographics. Demographics questions were posed at the opening page of the game (Figure 5.1). Participants were asked to report their gender and age but could opt out and/or ask for their demographics data not to be saved.

Results and Discussion

How Did the Participants Feel After Playing the Game?

The summary statistics with regards to the need satisfaction and emotional reactions can be found in Table 5.2. Note that in this study all participants of the training program were ostracized and, thus, we cannot compare this experience to an inclusion condition.

21 For the original versions in Dutch, see Supplementary Materials 1 (SM1).

Table 5.2 *Summary Statistics of All the Outcome Variables in Study 5.2.*

Outcome Variables	*M (SD)*
Belonging	1.88 (1.17)
Self-Esteem	2.24 (1.33)
Meaningful Existence	1.83 (1.21)
Control	1.99 (1.27)
Need Satisfaction	1.99 (1.02)
Sadness	2.08 (1.50)
Anger	2.25 (1.55)

Do People Wave in the Game?

To assess the influence of in-game waving behavior on post-game need satisfaction and emotions, we first looked at the frequency of waving during the game. This analysis was based on participants with at least some data points for in-game behaviors such as tosses and waves (n = 2,037). There was a large spread in the number of times people waved (IQR = 101, $Q1$ = 4, $Q3$ = 104), ranging from not waving at all (min = 0) to waving 319 times (max) in one game. On average, people waved about 70 times ($Mean$ = 71.52, $Median$ = 40).

There is also a difference in terms of when people wave. To illustrate, we present a visual depiction of waving behavior across time for four participants (see Figure 5.4). These participants not only waved in different amounts, but also at different time points. For instance, both participant 7 and 11 waved in the second half of the game with participant 11 waving at a much higher frequency (251 waves) than participant 7 (23 waves). Participant 6 only waved a few times around half-way through their game and participant 8 did not wave at all.

Does In-game Behavior Relate to Need Satisfaction?

We investigated whether the frequency of waving within the game was related to post-game need satisfaction. For the full set of results and the graph, see Figure 5.5. Both the frequentist and the Bayesian analyses indicated that the size of the correlation ($|r|$) was smaller than .09. This suggests that amount of waving and need satisfaction only correlate to a negligible degree (Akoglu, 2018; Schober et al., 2018). The amount of waving within the game thus did not significantly relate to how participants felt after the game. In the Rmarkdown file (SM3), we present another operationalization of waving by exploring the effect of giving up (i.e., the time between the last wave and the end of the game) on post-game measures.

Figure 5.4 *Visual Depiction of the Waving Behavior Across Time for four Participants in Study 5.2*

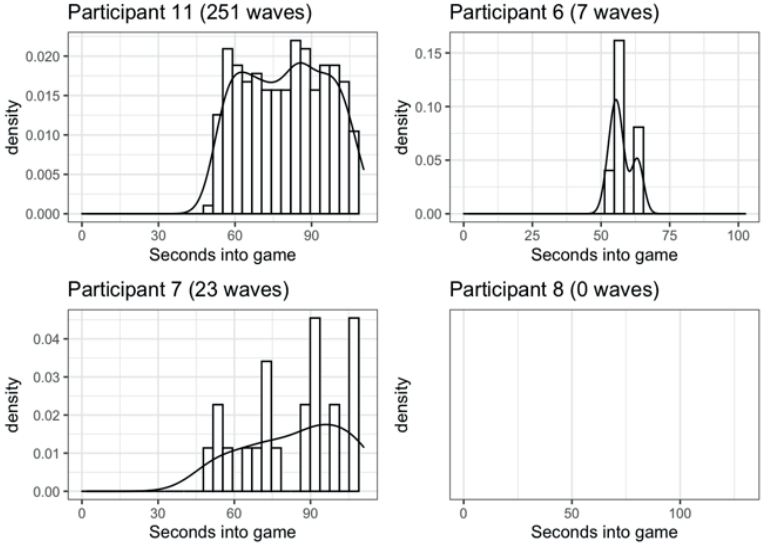
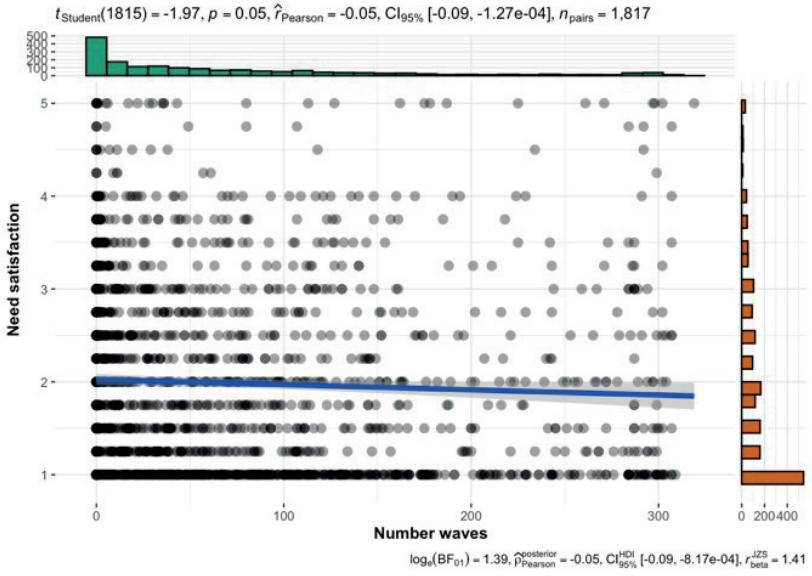


Figure 5.5 *Results of the Analysis Testing Whether Waving Influences Post-Game Need Satisfaction.*



General Discussion

In this article we introduced Social Ball – an immersive online ball-tossing game. We argue that Social Ball is an easy to implement and effective paradigm for ostracism research for several reasons. First, the test with respect to the effectiveness of ostracism manipulation suggested that Social Ball can successfully induce feelings of ostracism in ways similar to the established paradigm Cyberball (K. D. Williams & Jarvis, 2006). Second, researchers have full control over the social interactions within the game (via pre-programmed actions). This allows for exploring the impact of very specific group compositions and behavior patterns within and after the game – via the communication screen. Additionally, the lobby feature allows researchers to introduce some ecological validity by showing the selected avatars and nicknames of a group of participants to each other. Third, after hosting, the software functions as a point-and-click web app and does not require any programming knowledge. We believe that this makes the software easily accessible and easy to implement. We present additional instructions and tips in the configuration document to make the process easier on potential users (also includes instructions on hosting).

Additionally, we presented a previous implementation of Social Ball in an educational context (data based on social skills training). Participants in this data set were primary and secondary school age children. Here we focused on how the hand-waving feature in the game can be used to explore various questions. The results showed that participants differed in the extent of waving to receive the ball, which may be an interesting feature to include in future research (e.g., to tap attempts that may signal one's need for control or attempts to be included).

Prospects and Possible Avenues

Social Ball allows researchers to configure group settings in which the gender and the race representation can be varied. Researchers can easily alter the composition of the group in terms of race and gender to investigate questions pertaining to differences in group membership and their influence on feelings of belonging. By doing so, Social Ball can help contribute to the ongoing research on how group membership in terms of race (Aureli et al., 2020; Gonsalkorale & Williams, 2007; Goodwin et al., 2010; Mulvey et al., 2016) or gender (e.g., Bolling, 2016; Bolling et al., 2012; Hawes et al., 2012; Wirth & Williams, 2009) influences or is influenced by belonging threats.

Users can program two objects to be tossed in the game with various throw schedules. We have not yet used this feature in our research, but it allows designing games in which the participants are excluded from the toss of both objects, one object; or are included in the tossing of both objects. Such designs would enable researchers to test the effect of more complex situations that were not possible in previous versions of the ball-tossing game. Would being included in tossing one ball but not the other be better than being excluded from both tosses? How would people feel if they get a bomb thrown to them but not the ball? Additionally, the object counter – another property of the objects within the game, can be utilized for various purposes. By relying on instructions, researchers can use this counter to either strengthen the manipulation (i.e., the excluded participant received clearly less ball tosses than the others) or can potentially attach other meanings to the number of ball tosses (e.g., for each ball toss you receive you will get 10 cents).

Previous work on behavioral responses to ostracism shows that some individuals choose solitude after being ostracized (Ren et al., 2016, 2020). In Social Ball, researchers can activate an exit button and allow participants to leave the game sooner than the programmed duration. Such a setting would allow researchers to investigate factors predicting withdrawing from a situation in which one is ostracized by others. For instance, researchers can investigate whether people tend to withdraw by exiting the game quicker if they are ostracized by in-group or out-group players. Additionally researchers can also investigate whether factors that relate to solitude-seeking such as introversion (Ren et al., 2016) also predict quicker or more frequent exit behavior. Such studies would contribute to the overall understanding of how people respond to being ostracized by specifically zooming on withdrawal behaviors.

Besides a few recent exceptions (e.g., Meral et al., 2021; Zimmerman et al., 2021) interpersonal communication following ostracism has received little empirical attention. By using Social Ball, researchers can ask questions about if and how targets communicate with the sources following ostracism. For example, researchers can investigate whether the targets tend to confront the sources or what kind of emotions are being communicated by the targets. Alternatively, researchers can also study the participants' reaction to messages sent by other players. Does receiving an apology from the sources restore threatened needs? The post-game communication feature can easily be implemented to contribute to the understanding of this under-researched response following ostracism.

In addition to various research-focused uses, Social Ball can be utilized for educational purposes. As we briefly touched upon in the second implementation of the paradigm, the data in that study were from a training program a Dutch non-profit organization carried out in schools across the Netherlands. The non-profit used Social Ball as part of an experiential learning program in which the participants (students) were first asked to play Social Ball. This phase served as the first-hand experience of exclusion which then was used as a starting point in the discussions about exclusion and inclusion in general. Such experiential learning programs are used in schools (e.g., Healey & Jenkins, 2000) or workplaces (Heath et al., 2021) to raise awareness about various issues such as sexism or bullying (e.g., Cundiff et al., 2014; Hall et al., 2009). We think Social Ball is a feasible education tool for two main reasons. First, it can be easily implemented if there is internet access. It also does not require computers and can be played on tablets that have a touchscreen. Second, the lobby feature can increase the credibility of the game and involvement in cases where a group of individuals who already know each other are playing the game together. For instance, if the game is being used in a classroom the lobby feature would enable each participant to see the name/nickname of another peer from that classroom.

Conclusion

In this article we introduce Social Ball, a new, immersive online ball-tossing game that can be used as a research paradigm to study ostracism. Besides describing the features of Social Ball, we also share a configuration manual and an annotated R code to help format the data and carry out some common analyses. Moreover, we also reported findings from two use cases of the software. First, we verify the effectiveness of the paradigm by showing that ostracized (vs included) participants experienced less need satisfaction and more negative affect. This suggests that Social Ball can be used to induce feelings of ostracism. Second, we show that people used the hand-waving function within the game but that this behavior did not relate to need satisfaction following ostracism. To summarize, we argue that Social Ball is a promising, feasible and effective research paradigm to introduce variations in belonging.

BASED ON:

Meral, E. O., van Beest, I., Karaduman, C. (2022). Raising awareness about social exclusion in schools through experiential learning. *Social Psychology of Education*. https://doi.org/10.1007/s11218-022-09746-y
Manuscript published online ahead of print.

All data, analysis scripts and pre-registration files are at the Open Science Framework (https://osf.io/bhrwx/)

Chapter 6

Raising awareness about social exclusion in schools through experiential learning

Abstract

Social exclusion has a myriad of negative effects on students' psychological and social well-being. One way to combat such negative effects is to raise awareness about social exclusion in schools. Here, we describe and evaluate a training program that was carried out across schools in the Netherlands. The program relies on basic experiential learning principles and a well-established social exclusion paradigm to make participants experience and discuss social exclusion. We had three goals in the current paper: (1) discussing previous work supporting the feasibility of such programs, (2) presenting a secondary analysis of the data generated by the program, and finally (3) testing a core assumption of Temporal Need-threat Model of Ostracism (K. D. Williams, 2009). The analyses are based on 14,065 participants (ages 12 to 19) and a subset of those who evaluated the program later (n = 386). Our review of the literature supports the feasibility of the program in raising awareness about social exclusion. The results of the secondary data analyses further corroborate this finding and, importantly, offer a proof-of-concept for such training programs. Lastly, stressing a core assumption of the ostracism model, the results indicated that the experience of ostracism was not substantially altered by the characteristics of the participants such as age and gender.

Social exclusion hurts, happens frequently (Nezlek et al., 2012) and is considered a risk factor for depression (Rudert et al., 2021). People experience its negative effects well into their adulthood (Rudert, Janke, et al., 2020) and children are no exception (e.g., Elenbaas & Killen, 2016). In fact, when it happens in schools social exclusion impacts students' social life and school adjustment negatively (Buhs & Ladd, 2001) and is also a risk factor for psychological distress (Beeri & Lev-Wiesel, 2012). One way to ameliorate the negative impact of experiences like social exclusion in schools is through raising awareness about the issue via intervention or training programs (e.g., Harrist & Bradley, 2003; Leff et al., 2010). In the current paper, we present such a training program that is carried out by a Dutch nonprofit organization in schools across the Netherlands. This program aims to raise awareness about social exclusion. It is built as an experiential learning program and works by first making participants experience social exclusion with an online ball-tossing game. Next, participants engage in a guided discussion targeted at raising awareness and understanding amongst peers about social exclusion and its adverse effects.

We had three goals in presenting this training program. Our first goal was to provide a conceptual discussion of the program (i.e., theoretical background that guides the program (i.e., experiential learning Kolb, 2014b) and material selections within the program). Our second goal was to analyze secondary data generated within the program to provide proof-of-concept. Finally, for our third goal we aimed to investigate a core assumption of a major model on social exclusion, namely the Temporal Need-Threat Model of Ostracism (K. D. Williams, 2007, 2009).

Why Raise Awareness About Social Exclusion?

We argue that programs focused on raising awareness on social exclusion are necessary for two main reasons. A first reason concerns the negative outcomes associated with being excluded. Being excluded has a negative influence on individuals' cognitive (Baumeister et al., 2002; Hawes et al., 2012; Wölfer & Scheithauer, 2013), emotional (Hoglund et al., 2008; Leary, 2015; Prinstein & Aikins, 2004; Wölfer & Scheithauer, 2013), and social life (Buhs & Ladd, 2001; Hoglund et al., 2008; Ladd, 2006). Some of these effects can also have long lasting consequences for the targets (i.e., persons that are excluded). For example, experiences of exclusion during adolescence can be traumatic for individuals and contribute to experiences of depression later during their childhood (Platt et al., 2013; Qualter et al., 2010) or young adulthood (Lev-Wiesel et al., 2006). Exclusion during school years can also have a long-lasting

impact in terms of adjustment to school or society at large. For instance, children who are excluded or rejected during school years are more likely to engage in juvenile and adult criminality (Parker & Asher, 1987), more likely to engage in substance abuse in adolescence and drop out of school (McDougall et al., 2001). Taken together, these studies highlight how social exclusion can have immediate and lasting negative effects on children in multiple aspects of their life. We believe that this persistent negative influence of social exclusion demonstrates the need for programs focusing on preventing such behaviors in schools.

A second reason why we argue that such training programs about social exclusion are crucial relates to the nature of social exclusion experiences. Social exclusion experiences are mostly subtle (Robinson et al., 2013; Robinson & Schabram, 2017). This ambiguity surrounding the experience can in turn make social exclusion hard to recognize and deal with. More importantly, this subtlety may lead people to underestimate the adversity caused by social exclusion (O'Reilly et al., 2014). Therefore, we argue that raising awareness about social exclusion and helping individuals recognize exclusion and their part in it is a crucial part of navigating the potential hurt and negative outcomes associated with social exclusion.

Experiential Learning

Lewis and Williams (Lewis & Williams, 1994, p. 5) describes experiential learning as "learning from experience or learning by doing." The main idea behind such learning is that students learn by going through an experience and then reflecting on the experience to develop a new perspective on the subject or learn new skills (Kolb, 2014a; Lewis & Williams, 1994). In programs based on experiential learning the actual lived experience forms the basis for reflection. These reflections are then utilized to form conceptualizations and theories about the phenomenon (i.e., learning) which, in turn, guides the individual in creating new experiences (trying out what they learned or planning to try out). To summarize, a participant in an experiential learning program would build their knowledge through experiencing and reflecting on an experience, and in turn, this knowledge can be used to guide future actions surrounding the experience in question.

Experiential learning programs are used in various contexts such as workplaces (e.g., A. C. Baker et al., 2005; Heath et al., 2021), schools (Healey & Jenkins, 2000; Konak et al., 2014), or in other institutions such as museums (e.g., Moorhouse et al., 2019) to facilitate learning. While it can be used to teach

the content in a given subject matter (e.g., Leggette, 2012; Mahmoud & Nagy, 2009), it can also be used to teach and raise awareness about social issues such as sexism (e.g., Cundiff et al., 2014) or bullying (Hall et al., 2009; Heath et al., 2021).

Tackling Social Issues With Experiential Learning

Similar to what we are doing in this paper, there are examples of previous work using (or suggesting the use of) experiential learning to raise awareness about social issues. For example, one such project uses a board-game like simulation in which participants have to advance in academic careers to increase recognition of everyday sexism (Cundiff et al., 2014, 2014). Another example focuses on cyberbullying and relies on participants' own experiences to discuss and raise awareness of cyberbullying (C. W. Chen, 2018). Yet another example aims to raise awareness of bullying among children and relies on a specific computer game to instill the experience (Hall et al., 2009). One last example targets workplace bullying and suggests that experiential learning can be used to raise awareness amongst managers to help ameliorate the problem of bullying in organizations (Heath et al., 2021). While some of these examples test the effectiveness of certain experiential learning programs (C. W. Chen, 2018; Cundiff et al., 2014; Hall et al., 2009; Zawadzki et al., 2012), some offer detailed explanations of a newly developed experiential learning program and advocate for the use of it to tackle a certain social issue (Heath et al., 2021). Our approach in the current contribution falls between these two approaches. That is, while our focus is to illustrate how a tool to raise awareness about social exclusion can be developed (similar to the approach used by Heath et al., 2021), we also present preliminary evidence on whether such an approach is effective in reaching the goal of creating awareness about social exclusion.

An Online Ball-Tossing Game as the Concrete Experience

Experiential learning programs aim to facilitate learning through experience. Therefore, to learn about social exclusion in such a program one first needs to feel excluded. In the program we describe here this was achieved via an online ball-tossing game. Since this game forms the basis of the program, we discuss some past research suggesting the suitability of this game for the training program. In this online ball-tossing game, participants play with several other simulated players and the amount of ball tosses received by the participant varies based on whether the participant is included or excluded. Excluded participants only receive the ball for the first few tosses and then do not receive the ball for the rest of the game. Included participants, however, receive an equal number of tosses as the other players. Versions of this online ball tossing

game are widely used in social psychological research on social exclusion (van Beest et al., 2011; van Beest & Williams, 2006; K. D. Williams et al., 2000) and the most popular one is called Cyberball (K. D. Williams & Jarvis, 2006). A recent meta-analysis of 120 studies using this paradigm suggest that this paradigm is an effective way to induce feelings of exclusion across a wide range of outcomes and sampling aspects (such age and gender) ($|d| > 1.4$ Hartgerink et al., 2015).

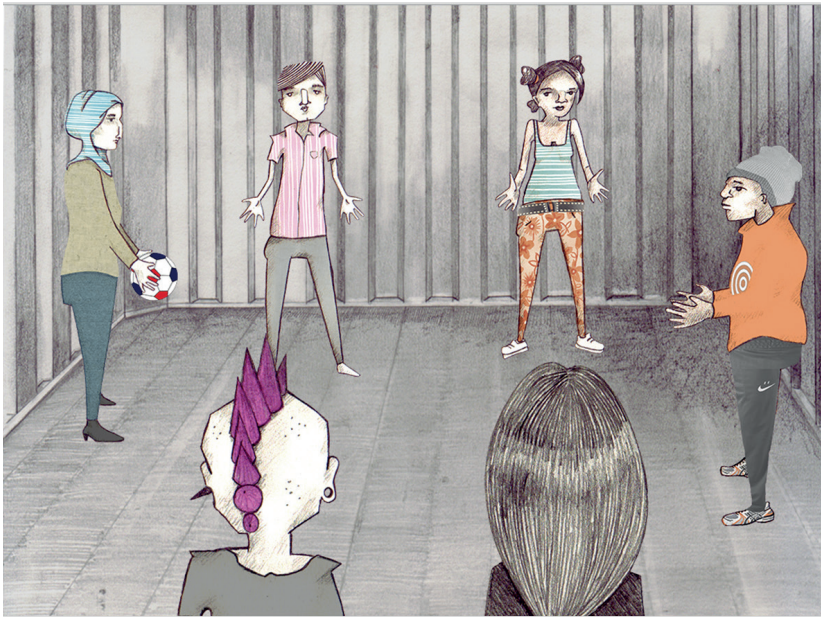
In the program we outline in this paper, a new version of the game was created to aid experiential learning. There were three important additions. First, the game was designed to be more engaging by adding a visual background and visual animations for characters (see Figure 6.1 for a screenshot from the game). Second, the game incorporated background music. Third, participants were allowed to choose how they wanted to be represented in the game by selecting an avatar out of six possible avatars. A crucial addition is that people not only saw their own avatars but also saw the avatars as chosen by other players with the name of the players on top of the avatars. Also relevant to note is that prior research on experiential learning has already shown that it is possible to implement mobile technologies and simulations to simulate the targeted experience (Hall et al., 2009; Lai et al., 2007; Leggette, 2012; Vannini et al., 2011). Hence, we think that the use of a well-established online ball-tossing game is an effective technique to use to induce feelings of exclusion in participants in training or intervention programs aiming to raise awareness about social exclusion via experiential learning.

Cross-Cutting Factors

A final goal in the current paper is to test a core assumption of a major model of social exclusion. According to the Temporal Need Threat (TNT) model of ostracism, the initial hurt of social exclusion is suggested to be robust to cross-cutting variables (K. D. Williams, 2009). This is an ongoing field of inquiry and while some studies support this claim in terms of need threat (Gonsalkorale & Williams, 2007; Zadro et al., 2004), some others suggest that the immediate hurt of social exclusion may indeed be prone to moderation (Bernstein et al., 2010; Eck et al., 2017; Goodwin et al., 2010; van Beest et al., 2011). Previous investigations of cross-cutting factors incorporate factors such as gender (Hawes et al., 2012), age (Abrams et al., 2011; Pharo et al., 2011), size of the group in which the exclusion takes place (Hartgerink et al., 2015; S. J. Tobin et al., 2018), or race (Gonsalkorale & Williams, 2007; Goodwin et al., 2010; Mulvey et al., 2016) to name a few. Therefore, we reported our results also in a way that could speak to this debate about the cross-cutting variables

by testing whether age, gender, the selected avatar, or group size influences the extent to which participants experience need threat following exclusion.

Figure 6.1 *A Visual From the Version of the Online Ball Tossing Game Used in the Program*



Why do we test for the effect of cross-cutting factors while presenting a training program? Experiential learning programs rely heavily on the participants to experience the phenomenon in question – in this case, the experience of social exclusion. If certain factors can reduce one's sensitivity to the simulated experience, this could potentially reduce the effectiveness of the program for those individuals. That is, if people are experiencing the phenomenon at differing levels, then their experience during the later stages of the program (e.g., discussion session) may also be influenced. Thus, knowing whether certain factors influence this experience can be informative for practitioners and researchers who intend to use similar programs.

Relevant to note is that the hypothesis that ostracism is not moderated by cross-cutting variables is often tested in a context where people are both included and ostracized. Findings then show that a cross-cutting variable has

less impact on the participants in the ostracism condition than in the inclusion condition. In the current context we could not make that comparison as the experimental learning is focused on how people deal with exclusion, it was not focused on how people deal with inclusion. Hence, our finding may or may not show that a cross-cutting variable moderated the experience of exclusion. However, it will not show whether this lack of moderation is stronger or weaker in the exclusion condition than the inclusion condition. Moreover, because we evaluate this core assumption within the context of an experiential training program involving 14,014 participants, we decided to test this assumption from the perspective of whether an effect has practical relevance and not whether an effect is statistically significant. In short, we decided to follow the advice of (Ferguson, 2009) and only consider statistically significant findings relevant if the associated effect size would be equal or greater than a Cohen's d = 0.41 (or r = .20).

Friend and Foe and Secondary Data Analysis

The training program that we discuss below was developed by a Dutch non-profit organization (Critical Mass: https://www.criticalmass.nl). It is part of a larger project named Friend and Foe (original name in Dutch: Vriend en Vijand) by the same non-profit that uses exhibitions and multimedia games to raise awareness and provide insights on social exclusion but also prejudice, bullying, social influence, and conflict escalation. For the social exclusion part of this program the second author provided input based on previous work on social exclusion in social psychology (e.g., on how to induce feelings of social exclusion or how to measure the effects of social exclusion and so on). The final decisions in terms of the questions and the procedure were made by the non-profit organization and the overall framework of the program was designed by the organization as well.

The social exclusion program uses experiential learning to raise awareness about social exclusion. Participants of the program first go through a simulation of social exclusion by playing an online game. This serves as the concrete experience and forms the basis for following discussions during the training. Next, participants fill out a questionnaire to start reflecting on their experience during the ball-tossing game and engage in a discussion session lead by a facilitator. This discussion is focused on stimulating thinking about the experience in depth and to help form a new perspective on social exclusion. A crucial part of this discussion is that participants also think and talk about how they would react in the future if they were socially excluded or observe someone being excluded. This final stage ensures that the participants leave the

discussion by having a plan as to how they could implement this knowledge into their lives.

We obtained two data sets from the organization that carried out the program. One data set contains data from the ball-tossing game and how participants felt after the game (henceforth referred to as the game dataset). The second data set contains answers to a questionnaire asking participants to evaluate the multiple aspects of the training program and the trainers in general (henceforth referred to as the evaluation dataset). We first present findings from the game dataset that speaks to how participants felt after exclusion and the moderation hypothesis by cross cutting factors. Next, we present data from the evaluation dataset to highlight how we think the current program may be an effective adaptation of experiential learning principles to raise awareness about social exclusion. We share the anonymized versions of both data sets and our analyses scripts in an open, online repository (link: https://osf.io/bhrwx/).

Study 6.1

Methods

Participants

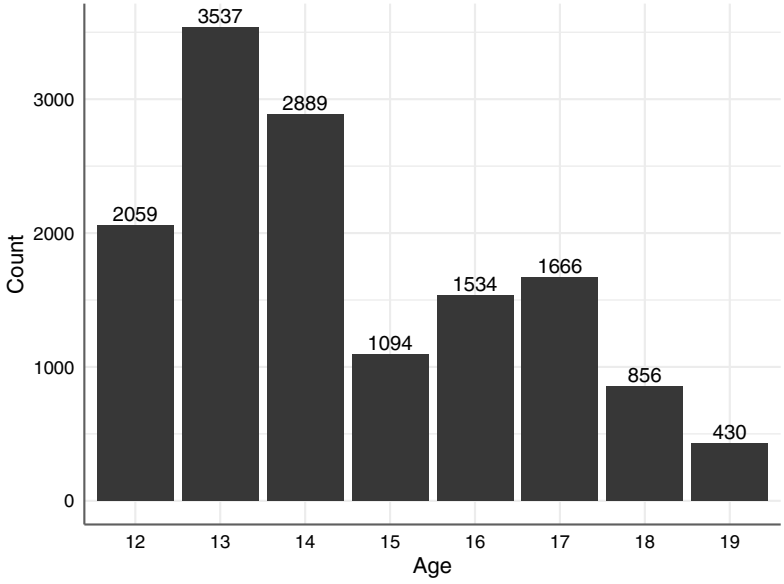
The game dataset consisted of 18,855 participants at various ages (from 10 to 70+). We took several steps to clean the data. First, we removed participants from sessions with less than three and more than six participants because the game can only be played with three to six players (removed n = 1054, remaining 17,801). Second, upon communication with the non-profit organization, we learned that the data also included the test runs and the data from teachers who sometimes also played the game. To remove people who were not participants of the program (e.g., teachers) and the test runs we applied a conservative age restriction and limited the final data set to participants between and including the ages of 12 and 19. Twelve is the start age of secondary school in the Netherlands, and 19 is an age when most people would have finished secondary school. This left us with only the participants who indicated being between the ages of 12 and 19 (removed n = 24,38). Third, we removed the participants who responded with insufficient effort. We relied on a very high or a very low-intra-individual response variability score (IRV: Dunn et al., 2018) as an indication of responding with insufficient effort. Very low IRV scores indicate responding to all or most items with the same value. Very high

IRV scores, on the other hand, indicate extreme variability in responses (e.g., giving the lowest possible score to two items and highest possible score to the other two items). We calculated the IRV on the main dependent variable (i.e., need threat measure with four items, see more information in the materials section) because this measure has both negatively and positively worded items and is our main outcome variable in the game dataset. Having a very low IRV score based on this measure would indicate giving the same score to items that are reverse-worded, i.e., no response variability. Whereas, having a very high IRV score would mean indicating the lowest rating (1) on two of the items and the highest rating (7) on the other two, i.e., extreme response variability. To approach the data cleaning conservatively, we removed participants who had both very high and very low IRV scores (n = 1298). We calculated the IRVs with the "careless" package in R (Yentes & Wilhelm, 2021).

After these steps to clean the data, the final game dataset consisted of 14,065 participants (6775 male, 7243 female, and 47 unidentified). Participants ranged from 12 to 19 years old (M = 14.50, SD = 1.98). See Figure 6.2 for a detailed breakdown of age groups.

The evaluation dataset consisted of a smaller group of participants (N = 384, 238 female, 146 male) who were asked to evaluate various aspects of the training program. The questionnaire did not include a question about participants' age yet included information on participants' school type and year. The inspection of school year data suggested that the evaluation data is limited to the first three years of secondary school in the Netherlands. Note that this would indicate that most of the students of the evaluation data set were aged 12 to and including 15. Whereas our game data included students presumably from all levels of secondary school (class 1 till class 6) and thus included a range of students from 12 to and including 19.

Figure 6.2 *Distribution of Participants of the Training Program by Age*



Note. The numbers above each bar indicate the number of participants for that age in the final sample.

Procedure

The Friend & Foe project of Critical Mass visited high schools and placed five containers in the school yards[22]. One of these containers hosted the social exclusion program that we are discussing in the current paper. Participants entered the exclusion container in small groups (3 to 6 persons) and sat around a hexagon shaped table (See Figure 6.3 for a photo of from the inside of the said containers). There were panels on the table separating each participant from the rest. During the game, participants were asked to put on headphones. The headphones and panels served to limit the interaction amongst the participants and help them focus on the interaction in the game (to see how this setup looked, see Figure 6.3). After taking their seat at the table, participants first indicated their age, gender, and choice of avatar for the game. There were 3 male and 3 female avatars varying in hair styles and one avatar

22 Currently they are using an updated version of the ball-tossing game that can run on tablets and they mostly run this program in classroom environments. This reduces the overall costs of the training program and increases its accessibility.

was wearing a hijab (see Table 6.1 for the pictures of the possible avatars). Next, all participants played the online ball-tossing game. In this game participants were led to believe that they were playing with their peers. Participants saw the names that their peers indicated as nicknames for themselves on top of the avatars they chose. Although participants saw the actual peers' avatars and names, the actual ball tosses in the game were pre-programmed such that all participants received the ball only for a couple times in the first few rounds and none thereafter. In short, participants experienced that they were excluded by their peers during a game of ball toss. Afterwards, participants proceeded to answering questions assessing their immediate reaction to being excluded. Subsequently, participants were debriefed that the game was programmed to exclude everyone and that their classmates actually did not exclude them. Finally, participants watched a short video about the negative effects of social exclusion.

Figure 6.3 *A Photo From the Inside of the Social Exclusion Containers*

For the discussion session, the platform with the screen and panels ascended enabling participants to see each other again. At this stage, the facilitator presented the participants with discussion prompts focusing on the effects of social exclusion and how to react when one is excluded or when observes someone else being excluded.

Materials

Online Ball-Tossing Game. The online ball-tossing game is an adapted version of Cyberball that is particularly designed for this program. The original version of Cyberball (K. D. Williams & Jarvis, 2006) was purposefully designed in a minimal manner and it was devoid of detailed animations or music. This new version was designed to be more visually appealing and engaging (i.e., character and background animations and background music) and it had the option to choose an avatar. The avatar selections of each participant were visible to all the players. In the game screen all the avatars stand in a circle with the participants' avatar situated at the bottom left corner. When participants login to the game with their avatar and name, they saw other avatars on the screen with the names of their peers who are supposedly playing the game with them. To throw the ball around participants needed to click the avatar of another player's avatar (see Figure 6.1 for a visual depiction of this game). During the game participants were led to believe that they were playing the game with their peers, yet they all played the same pre-programmed version. In this version participants received two ball tosses in the beginning and none after. This ensured that each participant was excluded from the ball tossing game supposedly by their peers whom they were playing the game with. Playing this ball tossing game serves as the concrete experience mode of the experiential learning cycle (Kolb, 2014b).

Reflection After the Game. Experimental research on social exclusion typically uses the Need Threat Questionnaire (K. D. Williams, 2009) to measure the immediate effects of social exclusion. This measure assesses four separate psychological needs that are suggested to be impacted by social exclusion, namely, the need for belonging, meaningful existence, self-esteem, and control. In the current project participants indicated how they felt during the game by answering to one item per need (belonging: "*I had the feeling that I was belonging during the game*," meaningful existence: "*I felt invisible during the game*," self-esteem: "*I felt good during the game*," and control: "*I had the feeling that I was the boss of the game.*"). Similar to previous work in the field (Riva et al., 2017; van Beest et al., 2011; K. D. Williams et al., 2000), we combined these items into an overall index of need threat ($\alpha = .69$). Higher numbers indicate more need threat. Feelings of anger following the game was also measured with a single item, "*I felt angry during the game*." The questions were presented individually in random order and were assessed on a 7-point Likert-type scale (1 = *totally disagree,* 4 = *neutral,* 7 = *totally agree*) (For the original version of all items in Dutch see supplementary Materials). Relying on single-item measures of need threat and emotions in younger populations

is not uncommon (Abrams et al., 2011). These need and emotion questions measure the immediate reaction of the participants to being excluded. In terms of the experiential learning cycle, these items serve as the reflective observation mode of the experiential learning cycle (Kolb, 2014b).

Discussion After the Game. The discussion section after the game focused on discussing the experience of the participants and how they would react if they were excluded in the future. Certain possible reactions were presented to the participants to prompt a conversation around what participants can do if they were excluded. These statements include "try not to think about it," "meet with other people," "stick up for yourself," "ask why you were excluded," "talk about it with friends or parents" (for a full list of items (both in English and Dutch), see supplementary materials). The discussion part was run by trained facilitators and it serves as the abstract conceptualization and active experimentation modes of experiential learning cycle (Kolb, 2014b). It serves as the abstract conceptualization mode because the participants discuss how they feel during the game to understand how it feels to be excluded. It serves the active experimentation stage because participants discuss different actions that they can take in the future if they were excluded or if they witness someone else being excluded. The non-profit organization did not gather any data pertaining to the discussion part. Therefore, we were not able to discuss the contents of the discussion phase any further.

Evaluation of the Program

A smaller group of participants also filled out a questionnaire to evaluate the program later (N = 384). This questionnaire included items measuring what participants thought of multiple aspects of the program. Here we assess questions that are specific to the social exclusion training but also questions about the overall program. There were three questions about social exclusion training which focused on whether participants gained new insights thanks to the program (e.g., "The exclusion container gave me insight."; 1 = *completely agree,* 5 = *completely disagree*). Moreover, there were also questions about the overall program such as questions about how specific parts of the program were perceived (e.g., "The discussion session was useful"), questions about the contents of the discussion section such as making plans to behave in a certain way in the future (e.g., "In the discussion session we made (new) agreements about how to treat each other), and questions tapping into behaviors following the program (e.g., "Did you talk about the program with your classmates"). Finally, there were questions about behaviors following the training program (e.g., "Since the program did you witness an unpleasant situation (such as

exclusion or bullying etc.)," "Did you do anything differently at that time than you would have done before taking part in the program"). A full set of items can be found in Figures 6.4 and 6.5 (for the original version in Dutch, see supplementary materials).

Note that we will assess a couple of questions that are not specific to the social exclusion program, but more general as they pertain to the evaluation of the overall program that was offered at schools. The other aspects of the overall program were also based on experiential learning and had the same structure but were focusing on other social issues (e.g., prejudice). We nevertheless decided to include the analysis of these more general questions in the current paper. The first reason why is that these general questions, albeit general, also speak to the specific event of the exclusion experience. The second reason is that some of questions touch upon the active experimentation phase of the learning cycle (e.g., whether they talked about the program with others or behaved differently following the program) and can be incorporated in the future uses of such programs. Therefore, we thought discussing these items would benefit the readers and future potential users of the program.

Results

We present the results in two subsections. In the first subsection we present our findings from both *the game* and *the evaluation data* that highlight why we think the current program using an online ball-tossing game is a good candidate for raising awareness about social exclusion. In this subsection we rely on descriptive statistics and data visualizations to present our data. In the second subsection we present findings from the game dataset as a test of the prediction that the initial hurt of social exclusion is impervious to cross-cutting variables (K. D. Williams, 2009) by testing how the said cross-cutting variables influence individuals' immediate reaction to being excluded.

Due to the large sample size of the game data set, we repeat our qualification mentioned in the general introduction that we will use evaluate effect sizes to interpret out findings (Cohen, 1969, 1998; Peeters, 2016; Sullivan & Feinn, 2012). Following the advice of Ferguson (2009) we deemed a finding relevant if the effect size is equal or greater than Cohen's d = .41 (or r =20), and thus irrelevant if the effect size would be lower than Cohen's d = 0.41 (or r = 20).

Preliminary Findings on the Training Program

How Did Participants Feel After Playing the Game?
Participants were asked to reflect on their experience in the social exclusion game by answering questions tapping into their need fulfillment and anger. We offer a secondary analysis of these answers. Since we did not have a control condition (e.g., an inclusion condition where all participants received equal ball tosses), we choose to present the descriptive statistics alongside a comparison of the mean values to the middle-point of the scale for need threat values similar to previous work (Sleegers et al., 2016). The results revealed that participants felt more need threat (M = 4.58, SD = 1.35) than the middle-point of the used scale (4), t(14,064) = 51.15, p < .001, d = .43 [.38, .50].

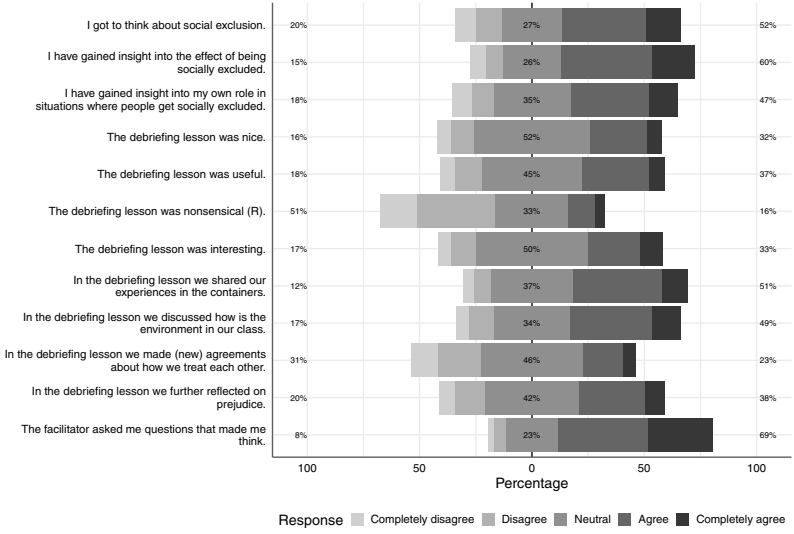
For feelings of anger, we did not compare the results to the midpoint (4) but instead to the lowest value on the scale (1). The reason is that feelings of anger are typically absent when people are included (i.e., hover around the lowest value of the scale) and comparing anger to the midpoint would thus be a too conservative test of whether exclusion induces anger (e.g., Rajchert et al., 2017; Svetieva et al., 2016; Zadro et al., 2004). The result of our comparison revealed that participants felt more anger (M = 2.53, SD = 1.98) than the lowest value on the scale, t(14, 064) = 91.35, p < .001, d = .77, [.75, .79].

How Did Participants Evaluate the Social Exclusion Program?
Did Participants Find the Program Useful and Insightful? Figure 6.4 shows the distribution of responses to the questions assessing how people evaluated the exclusion training program. The questions can be categorized into three clusters. Items 1-3 represent what we call *new insight about exclusion.* Items 4-7 represent how students perceived the discussion session (i.e., referred to as the "debriefing lesson" in the items) and we call this cluster *perceptions of the discussion section*. Items 8-12 represent the *contents of the discussion*.

For results about *new insights about exclusion*, one can look at the top three questions in Figure 6.4. The distribution of the answers suggests that on average majority of the students agreed with the program giving them new insights about exclusion or their role in exclusion (see the top section of Figure 6.4, items 1-3). Additionally, a majority of the students found the discussion part nice, useful, and interesting (see middle section of Figure 6.4, items 4-7). Finally, the pattern of answers with regards to the contents of the discussion phase also suggests that a majority of the students got to reflect on the situation in their classroom and also got a chance to link multiple

social issues together such as social exclusion and prejudice (See the bottom section of Figure 6.4, items 8-12). It seems that more students disagreed with the statement indicating that they made agreements on how to interact with each other in the future (item 9), suggesting room for improvement in future versions of the program.

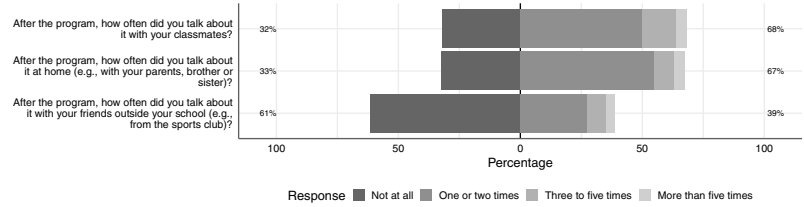
Figure 6.4 *Percentage of Responses to the Evaluation Questionnaire*



Note. The bars are centered around the neutral answer. On the right-hand side of the graph are the percentages of people who agreed (agree or completely agree) with a given item, and on the left-hand side are the percentages of people who disagreed (disagree or completely disagree). The percentages at the center reflect the people who chose the "neutral" option.

Did Participants Talk to Others About the Program? Figure 6.5 depicts the distribution of responses assessing whether students talked about the program with classmates, family, and friends. The distribution shows that more than half of the participants talked about the program with their classmates (68%) and with their families (67%) at least one or more times. Moreover, more than one-third of the participants (39%) reported talking about the program to their friends outside of the school.

Figure 6.5 *Percentage of Responses to Questions Asking to Whom Participants Talked About the Program*



Note. The bars are centered around the point between "not at all" and "one or two times". Percentages of people who talked about the program with others at least "one or two times" are depicted on the right-hand side of the figure.

Did Participants Use What They Learned from the Program? Fifty-six participants indicated witnessing an unpleasant situation such as bullying or social exclusion (about 17% of the total group of participants who evaluated the programs). Of these 56 participants 14 (25%) indicated that they did something they would otherwise not have done before the program.

Cross-Cutting Variables

Does Gender Influence Need Threat and Anger?

Participant gender affected the reported need threat after the game. Male participants reported lower need threat (M = 4.45 SD = 1.44) than female participants, (M = 4.71, SD = 1.25), t(13,464), = -11.64, p < .001, d = -.20, 95% CI [-.23, -.16]. That is, female participants experienced more need threat (e.g., less belonging and control) than their male peers. Participant gender did not change reported anger, t(13,700) = 1.80, p = .07 d = .03, 95% CI [.00, .06]. Although statistically significant, the effect of gender on need threat falls short of what we deem practically significant in the current project (d = .41, Ferguson, 2009).

Does Age Influence Need Threat and Anger?

Participant age was statistically correlated with overall need threat r = -.029, p < .001, and anger r = -.040, p < .001. Note that both correlations are not practically relevant (i.e., r < .20) and we would thus be hesitant to conclude that older participants in our sample are indeed less negatively affected by exclusion than younger participants.

Does Avatar Choice Influence Need Threat and Anger?

Participants were able to select an avatar from a pool of 6 avatars (see Table 6.1, for descriptive statistics). One-way ANOVA's with six levels (avatars 1 to 6) showed that avatar selection had a significant effect on need threat, $F(5, 14{,}059) = 19.64$, $p < .001$, $\eta^2 = .007$, and anger $F(5, 14008) = 5.36$, $p < .001$, $\eta^2 = .002$; anger $F(5, 14{,}059) = 5.94$, $p < .001$, $\eta^2 = .007$, and anger $F(5, 14008) = 5.36$, $p < .001$, $\eta^2 = .002$. Due to the negligible effect sizes, we did not follow-up these effects with post-hoc analyses.

Table 6.1 *Selection of Available Avatars in Study 6.1 with Corresponding Descriptive Statistics*

Avatar number	1 	2 	3 	4 	5 	6 
n per avatar	2218	2347	1762	2714	3856	1168
Need threat M(SD)	4.45 (1.38)	4.43 (1.42)	4.56 (1.44)	4.72 (1.25)	4.68 (1.25)	4.54 (1.50)
Anger M(SD)	2.45 (1.97)	2.52 (2.01)	2.64 (2.12)	2.51 (1.89)	2.47 (1.90)	2.77 (2.20)

Does Group Size Influence Need Threat and Anger?

Participants played the game in groups varying in size between 3 to 6. We investigated whether the size of the group influenced need threat and anger. Group size was statistically correlated with overall need threat $r = -.027$, $p = .001$, and anger, $r = -.018$, $p = .03$. Yet, similar to other cross-cutting variables we investigated, the size of the effect was again lower than our practical relevance threshold ($r = .20$). Hence, we conclude that group size is not relevant for need threat and anger in this sample.

General Discussion

Social exclusion is a negative experience, yet its subtle and seemingly innocuous nature may cause it to fly under the radar (O'Reilly et al., 2014; Robinson & Schabram, 2017). This may result in unnecessarily long suffering and long-term negative effects especially if individuals underestimate the negative influence that social exclusion has on individuals. Therefore, we think raising awareness about social exclusion in schools is crucial and can have a large impact if done early. The current article centers around a training program that did just that:

raise awareness about social exclusion in schools. The specific program aims to raise awareness about antecedents and consequences of social exclusion, and it also aims to make students aware of the ways in which they can deal with social exclusion in the future (either as a target or as a bystander). We had three goals in presenting this program. First, we aimed to describe the program and its guiding principles. Second, we aimed to test whether this program can be useful by presenting a secondary analysis of the data that was generated within the program. Third, we aimed to test whether how participants feel after being excluded would be moderated by cross-cutting variables such as gender and age.

For our first goal, we described the training program and discussed the guiding principles behind the program to show how this program was theory- and research-driven in terms of its design and materials. Work on social exclusion, more specifically the work that incorporates Cyberball, shows that this online ball-tossing game is successful in inducing feelings of exclusion (Hartgerink et al., 2015). Work on experiential learning targeting social issues suggests that relying on experiential learning principles can indeed raise awareness about a variety of social issues such as bullying (Hall et al., 2009; Heath et al., 2021). More specifically, work on experiential learning shed lights on why the program we outline here was designed as such, and work on social exclusion informs why the specific paradigms and measures were incorporated (i.e., the online ball-tossing game and the associated measures). Taken together, we think that these two lines of work highlight two things. First, that experiential learning principles are a great fit for teaching about the subtle and usually underestimated experience of social exclusion. Second, that a well-studied paradigm for inducing the experience of social exclusion can also be utilized as a learning tool.

For our second goal, we sought to test our theoretical reasoning about the usefulness of this program with a secondary data analysis. We analyzed the data that was provided to us by the non-profit organization which carried out the training program across schools in the Netherlands. This secondary analysis allowed us to evaluate how participants in the current sample felt after being excluded. Our results concerning need threat and anger revealed similar scores to that of other studies experimentally manipulating social exclusion with similar ball-tossing games (de Waal-Andrews & van Beest, 2012; Sleegers et al., 2016; van Beest et al., 2011). We think this is an important contribution to the field for two main reasons. First, we think this similarity in findings supports the external validity of more controlled studies that use similar

measures and paradigms. After all, our results are based on 14,014 school age participants across the Netherlands and show a similar pattern to those of more controlled lab studies. Second, we think this similarity is important because it provides a way for future versions of this training program to benefit from the extensive research that use similar measures and paradigms as we outlined here (see Hartgerink et al., 2015 for a meta-analysis of 120 studies using a similar ball-tossing game). For example, people who design future programs can enrich their training by studying the work on what aids recovery after being excluded in this ball-tossing game (e.g., Rudert et al., 2017; Zimmerman et al., 2021).

Importantly, this secondary analysis also allowed us to assess how a subgroup of participants in the current sample evaluated the program in terms of its content and usefulness. The majority of the participants in the evaluation dataset agreed that they gained insights into social exclusion, their role in social exclusion, and what they can do in such situations. Additionally, when evaluating the overall training program, most students also agreed that they had the chance to talk about the atmosphere in their classroom, and they indicated finding the debriefing sessions were useful and interesting. Given how social exclusion can be hard to recognize and underestimated (O'Reilly et al., 2014; Robinson & Schabram, 2017), we think knowing more about the negative impact and one's part in inducing this negativity in others are essential. In fact, previous work shows committing to inclusive behaviors in classrooms can have positive effects such as reduced rates of peer rejection (Waasdorp et al., 2012) and more liking amongst peers (Harrist & Bradley, 2003). Thus, we argue that teachers and practitioners can build on these new insights that their students gained to create more inclusive classrooms in which students are committed to more positive behaviors.

Active experimentation part of the experiential learning cycle focuses on taking the knowledge gained from the learning experience and carrying it out to the real world. Participants discussing this newly acquired information with others and recognizing the discussed issues in real life can be taken as signs of active experimentation (Kolb, 2014b). Results based on a subset of participants who evaluated the program reveals some insights as to how participants may have carried this training program to their daily lives. Two-thirds of the participants indicated talking to their classmates or their family members about the program at least one or two times, and one-third indicated talking to their friends outside of school. This suggests that most participants may have taken the newly acquired knowledge outside of the learning contexts suggesting

active experimentation. Importantly, a small portion of the participants (17%) indicated witnessing a situation like the ones covered in the program (e.g., social exclusion and bullying). This presents the perfect opportunity for participants to apply whatever they learned from this program into their own lives. In fact, one-fourth of these participants indicated actually behaving in a way that they would not have done so before the training program. That is, some of the participants not only recognized a situation as social exclusion or bullying but also acted differently than they would have otherwise. We take this as further preliminary evidence for the usefulness of this program in raising awareness about social exclusion and similar social situations such as bullying.

Finally, for our third goal we tested the assumption of the Temporal Need-Threat Model of Ostracism (K. D. Williams, 2009) that the immediate hurt of social exclusion is impervious to cross-cutting variables. Put differently, this model would assume that age, gender, group size and avatar choice should not moderate experienced need threat and anger. Our analyses provide mixed support for this core assumption. One the one hand, we provide statistical evidence that age, gender and avatar choice did moderate need threat (but not anger). However, the crucial issue here is that we had a very large sample, and that it is thus important to account for that. Thus, we rely on whether or not an effect has practical relevance instead of relying solely on the resulting *p* values. From this perspective, the core assumption of the model is supported as neither age or gender, group size, or avatar choice moderated need threat or anger at the level it becomes practically relevant, a Cohen's $d = .41$, $r = .20$ (Ferguson, 2009).

Should then practitioners not care about these cross-cutting variables? We recommend otherwise. There is previous work that relies on a broader operationalization of both social exclusion (e.g., peer rejection) and reactions to social exclusion (e.g., distress or delayed responses) that shows moderation effects of variables such as age and gender (Beeri & Lev-Wiesel, 2012; Reijntjes et al., 2006). In the current paper we acknowledge these inconsistencies in the literature with regards to how people feel about social exclusion depending on certain characteristics. At the same time, we do not see this inconsistency in prior findings as a problem. After all, the training program does not only assess the immediate hurt, but it also includes a moment to actively discuss what happened to participants. This discussion is thus more attuned to reflection and prior research has provided consistent findings that upon reflection key cross-cutting variables to impact how people cope with the initial hurt of

ostracism (Hartgerink et al., 2015; Ren et al., 2013; Yaakobi et al., 2021; Zadro et al., 2006). In other words, even though our analysis supports the Temporal Model of Ostracism (K. D. Williams, 2009) that the initial hurt is not substantially altered by cross-cutting variables, it is quite likely that they might when people are reflecting upon the experience. We thus recommend that, within the context of this program, the feeling of exclusion induced by the ball-tossing game should only be used as a steppingstone for future discussion. We suggest that when building upon these feelings of exclusion practitioners or researchers can think about the different ways in which this program can be adapted to the specific needs and characteristics of their target population. More specifically, we recommend relying on the large body of work investigating how people experience social exclusion or other relevant experiences (e.g., Smart Richman & Leary, 2009; Wesselmann et al., 2016) based on their identity or group membership to enrich the program and make it more useful for their special use case (e.g., Beeri & Lev-Wiesel, 2012; DeSouza et al., 2017, 2019; Goodwin et al., 2010; Hawes et al., 2012; Killen & Stangor, 2001; London et al., 2012a; Lopez & DuBois, 2005; Mendoza-Denton et al., 2002).

Limitations and Future Directions

In the current contribution we integrated insights on experiential learning and insights on social exclusion. We presented data that participants found the experience valuable and that they learned from it. A limitation is that we did not test the effectiveness of our program in terms of the ability to reduce the actual occurrence of ostracism. This was beyond the scope of the collaboration that we had with the non-profit organization. We hope, however, that our first step will inspire future researchers or practitioners to test the effectiveness of this program in not only providing students with insight, but also in reducing actual rates of social exclusion in schools.

In the program we focused only on the experience of being socially excluded. We did not focus on being socially included. This makes sense from the perspective of a training program carried out by a non-profit organization. Most studies relying on Cyberball to manipulate social exclusion compare the effects of an exclusion condition to an inclusion condition in which participants get an equal number of ball tosses. Such a comparison was out of scope for the current project. Yet, we reasoned that the descriptive statistics of need threat values could benefit from some comparison to values that would be obtained if there was an inclusion condition. To achieve that and to provide more context to otherwise difficult to interpret absolute values, we compared

observed descriptive statistics on need threat to previous work also conducted in the Netherlands. We identified two such examples (de Waal-Andrews & van Beest, 2012; Sleegers et al., 2016) that use Cyberball and measure need threat with the 20-item Need Threat Questionnaire (van Beest & Williams, 2006) that our questions were based on. In both studies, like the results presented here, the overall need threat scores were higher than the middle-point of the scale. We could not compare anger scores with these two studies because they do not report the results pertaining to anger separately as we do in this project. Yet work we used when making our analysis plan pertaining to anger shows similar values for levels of anger as we observe here (Rajchert et al., 2017; Svetieva et al., 2016; Zadro et al., 2004). Although we cannot compare the experience of being excluded to that of being included, we reasoned that discussing the descriptive statistics from other studies may help contextualize the absolute values we have and highlight that these scores are mostly in line with what one would observe in studies with similar designs (and studies in a similar context, i.e., the Netherlands, in the case of need threat).

Conclusion

Social exclusion is a negative experience, yet its innocuous nature may cause it to go under the radar. This may result in unnecessarily long suffering and may have long-lasting negative impacts on the targets of exclusion. One way to ameliorate these negative effects is to raise awareness about social exclusion in schools. To do so, we discussed a brief training program that integrated insights on experiential learning and social exclusion. We provide evidence that such a program can be devised. We also provide preliminary evidence suggesting that participants can gain relevant insights from such programs. We hope for this work to stimulate more researchers and practitioners to consider this combination and design *and* implement programs to combat the seemingly innocuous problem of social exclusion.

Chapter

General Discussion

The main aim of this dissertation was to contribute to the understanding of social exclusion by investigating whether, why and how people talk about social exclusion, and exploring the consequences of such communications. Across five empirical chapters, I presented studies I have conducted throughout my PhD, in collaboration with my coauthors. We investigated how targets and audiences view disclosures of rejection (Chapter 2), whether targets truthfully communicate emotions to sources (Chapter 3) and whether targets' appraisals predict the extent to which they talk about exclusion (Chapter 4). These studies either relied on various methods such as vignettes (e.g., Chapter 2), manipulation of social exclusion via online games (e.g., Chapter 3), or asking people to recall a time in which they were excluded (e.g., Chapter 4).

In the general discussion section, I contextualize the findings in this dissertation within the larger literature on social exclusion, highlighting their theoretical and practical contributions. I first summarize the findings from each empirical chapter. The summaries focus on the methods and the main findings of each project in the order in which they appeared in this dissertation. Following these summaries, I move on to discussing the theoretical and practical implications of the current work and identify some limitations. Important to note, I discuss the contributions and limitations of this dissertation again within a broader perspective. Thus, instead of focusing on each empirical chapter's contributions and limitations I discuss this dissertation as a whole and touch upon specific chapters when necessary. The discussion of each separate project in terms of how they could contribute to or extend theory, and their specific limitations can be found in the empirical chapters.

Summary of Main Findings

In **Chapter 2**, we investigated how targets and audiences perceive the disclosure of rejection experiences. We asked participants to imagine disclosing to someone that one had been the target of social rejection, or hearing someone else sharing an event of having been the target of social rejection. Next, participants reported their disclosure preferences (e.g., reluctance to talk about the event) and the anticipated outcomes (e.g., negative evaluation). Our findings revealed that targets anticipated more social costs and less benefits of disclosure if they were disclosing a rejection rather than non-rejection experience, however, felt similar levels of urge and reluctance to disclose their experience (vs control). Importantly, participants who were asked to imagine being the audience indicated that they would evaluate someone more negatively

upon hearing that this person had been rejected (vs control). This suggests that the targets' fears about being negatively evaluated upon disclosure were, to a certain extent, justified. Targets felt less reluctance and anticipated lower social costs associated with disclosing rejection experiences to close others. Taken together, target and audience reactions to the disclosure of rejection converge to a large extent in revealing that the disclosure of rejection may be a socially costly act. That said, sharing such hurdles with close others may be the key to avoid the reputational costs and reap emotional benefits at the same time.

In **Chapter 3**, we focused on a more specific form of interpersonal communication and investigated how ostracized targets communicate emotions to the sources of their ostracism. More specifically, we asked whether targets of ostracism would misrepresent their emotional reactions to the sources or whether they would share them truthfully. Participants played two rounds of an online ball-tossing game with other players, whose behaviors were - unknown to the participants - preprogrammed to either include or exclude the participant: by either tossing an equal number of balls to the participant or by throwing no balls to the participant. After being ostracized or included from the ball-tossing game, participants reported how they felt during the game. Based on previous work on strategic communication of emotions in bargaining (Andrade & Ho, 2009; van Dijk et al., 2018), we manipulated interpersonal communication by telling participants that their answers to questions would be shared with other players. We slightly varied this method in each study in Chapter 3 to rule out several alternative explanations. The findings converged with previous literature (Hartgerink et al., 2015) such that ostracized participants felt more need threat and more negative affect than included participants. Some people changed their answers when communicating to others, but there was no consistent evidence suggesting that ostracized individuals misrepresented their emotions more or less than included individuals. Findings of frequentist and Bayesian analyses converged to show that ostracized targets were not more likely to misrepresent their emotions to the sources than the included participants. Put differently, both ostracized and included targets communicate their emotional reactions to the sources truthfully.

In Chapter 2 we studied communication with people who are not involved in the exclusion experience and in Chapter 3 we studied communication with the sources of exclusion. Bringing these two types of audiences together, in **Chapter 4**, we investigated how targets of workplace ostracism cope with the experience by talking to others (i.e., support seeking), the sources (i.e.,

confrontation), or by not talking to anyone (e.g., minimization). Here we drew from the transactional theory of stress and coping (Lazarus & Folkman, 1984) and investigated the extent to which targets' subjective experience of being ostracized at work relates to coping. We relied on current discussions around workplace ostracism (e.g., Ferris et al., 2017) and examined perceived intensity, attributions of intent, and perceived ambiguity as predictors of coping responses in two different ways. First, by asking working individuals to report on instances in which they felt ostracized at work; and second, by asking a separate set of working individuals to react to hypothetical scenarios in which we manipulated intensity, intent, and ambiguity appraisals. Our findings suggested that overall, targets mostly responded with avoidance-oriented coping responses such as minimization (e.g., telling themselves that it is not important) than more approach-oriented coping responses (e.g., confrontation or support seeking). How did appraisals relate to coping? Although theorizing around workplace ostracism suggests that perceived ambiguity would be an important determinant for coping responses (Robinson et al., 2013; Robinson & Schabram, 2017) our results suggested that perceived intensity and attributions of intent had more predictive power. More specifically, findings across the cross-sectional and experimental methods converged to a large extent in suggesting that perceived intensity and attributions of intent were positively related to more approach-oriented coping responses.

The second part of this dissertation takes a different approach and aims to contribute to the field of social exclusion by stimulating future research and promoting practical applications. In **Chapter 5**, we introduced a tool that can be used in manipulating feelings of exclusion and inclusion, namely Social Ball. In collaboration with a Dutch non-profit organization and a software development company, the game Social Ball was developed, which builds on the well-used and tested software Cyberball (K. D. Williams & Jarvis, 2006). Social Ball is an online ball-tossing game with a number of features that were previously incorporated to Cyberball (such as being able to throw a bomb around: van Beest et al., 2011) alongside some novel features (e.g., hand-waving during the game or post-game communication screen) that are easily accessible from the software's interface. From the participant's perspective, the software was developed to be more socially and visually engaging to create a video-game-like online environment. The main aim of Chapter 5 was to introduce Social Ball and to make using the app easy and straightforward for researchers and practitioners. To that end, we explained the features of Social Ball, included a tutorial for configuring various versions of the game, and shared an annotated R code for formatting the data and running some basic

analyses on the data generated within the software. We also report findings from empirical studies that used this game. Results from the first implementation showed that participants that are excluded in the game report lower levels of need satisfaction and higher negative affect than included participants. This suggests that Social Ball, similar to Cyberball, is an effective manipulation of social exclusion. The second implementation included a secondary data analysis of an application used in schools to raise awareness about ostracism. This analysis allowed us to explore novel research questions by taking advantage of the features of Social Ball. In our analyses, we tested whether a specific form of in-game behavior (i.e., avatars waving their hands to get the ball) related to post-game need satisfaction. The results suggested that participants waved their hands to varying degrees and the frequency of waving was not related to post-game need satisfaction.

Besides providing researchers and practitioners with a tool to manipulate feelings of social exclusion, in this dissertation we also presented a social exclusion training program. In **Chapter 6**, we presented a training program aimed at raising awareness about social exclusion in primary and secondary schools across the Netherlands. This program was developed by a Dutch non-profit organization around principles of experiential learning. Experiential learning programs aim to encourage learning with first-hand experience followed by a guided discussion (Kolb, 2014b). The training program we discuss here used a version of Social Ball to first induce feelings of exclusion. Afterwards, participants of the program engaged in a discussion about being excluded and excluding others. Besides discussing some theoretical evidence supporting the validity and feasibility of such training programs, in Chapter 6 we also present a secondary data analysis of the data generated within the program. The results offer preliminary evidence for the effectiveness of the program by, for instance, showing that more participants found the program useful and indicated that they gained new insights after the discussions than not. This chapter serves as a proof-of-concept for training programs on social exclusion aiming to raise awareness about social exclusion at schools. Additionally, supporting the Temporal Need Threat Model of Ostracism (K. D. Williams, 2009), we found that certain characteristics like avatar choice or participant age did not significantly influence how participants felt after being excluded.

Theoretical Implications and Extensions

In this section of the general discussion, I draw on current theorizing on social exclusion to contextualize the findings of this dissertation. In doing so, I touch upon some of the theories or models related to social exclusion that I think are especially relevant for talking about social exclusion such as the Sociometer Theory (Leary & Baumeister, 2000), functional accounts of social exclusion (Kurzban & Leary, 2001), and the Temporal Need Threat Model of Ostracism (K. D. Williams, 2009). In the following sections I start by briefly describing the core aspects of each theory. Next, I discuss the ways in which the findings of this dissertation can contribute or extend these theories. In doing so, I also identify new questions and potential research avenues that arose from thinking how these theories or models would approach the issue of interpersonal communication about social exclusion.

Sociometer Theory

Sociometer Theory suggests that self-esteem is a gauge of one's inclusionary status and works by alerting the individuals to signs of potential inclusion or exclusion (Leary & Baumeister, 2000). More specifically, self-esteem functions as "[…] one's subjective appraisal of how one is faring with regard to being a valuable, viable, and sought-after member of the groups and relationships to which one belongs and aspires to belong" (Leary & Baumeister, 2000, p. 2). The Sociometer Theory does not explicitly touch upon talking about incidents of social exclusion. However, it suggests that events or situations carry "symbolic messages" regarding a person's overall relational value or their *eligibility* for inclusion. It follows that disclosing rejection events to others (i.e., events in which one was devalued) can potentially communicate such "symbolic messages" to others as well. That is, when one discloses having been rejected to others, one also discloses information about one's eligibility for inclusion.

Leary and Baumeister (2000) also discuss the anticipatory nature of the sociometer such that the sociometer can detect potential signs of exclusion and warn the individual before engaging in such acts. This line of reasoning specifically resonates with the findings from Chapter 2. The idea of the sociometer aligns nicely with how targets feel reluctant to disclose rejection experiences. The sociometer may be alerting the individuals to potential belonging threats (i.e., anticipation of negative evaluation and rejection) associated with disclosing a rejection experience. Future work can explicitly test the relationship between relational devaluation and reluctance to disclose

social exclusion by measuring target and audience reactions to a large number of situations. Sociometer Theory (Leary & Baumeister, 2000) would then predict a positive relationship between the audience's devaluation of a target who disclosed having been excluded and the target's reluctance to disclose the same experience. Such an investigation would extend Sociometer Theory by testing its claims in the context of interpersonal communication of social exclusion experiences.

Although not directly measured, these anticipated social costs could also be a reason why targets of workplace ostracism in Chapter 4 reported using minimization (i.e., ignoring the issue or telling oneself that it is not important) far more frequently than any other strategy that requires talking about ostracism. Only when perceived intensity was higher targets were more likely to talk to others and/or confront the source. Targets of workplace ostracism may only be motivated to talk about their exclusion when the costs of talking about it are outweighed by the costs of remaining silent. Exploring whether targets of workplace ostracism are not engaging in more approach-oriented coping responses (e.g., confrontation, support seeking) because of anticipated social costs could extend Sociometer Theory into organizational studies.

Evolutionary/Functional Accounts of Social Exclusion

Some functional accounts of ostracism attach evolutionary significance to the experience of being socially excluded (e.g., Gruter & Masters, 1986; Kurzban & Leary, 2001; Wesselmann et al., 2012) and suggest that exclusion has been used as a tool to punish people who deviate from norms or to signal that such deviation could result in ostracism (Hales et al., 2016). I argue that for social exclusion to be an effective punishment or deterrence tool, there needs to be a shared understanding about its effects and consequences. This shared understanding can manifest itself in converging reactions to exclusion experiences from targets, sources, and audiences. If, for instance, being socially excluded is not evaluated negatively by the group and its members, then social exclusion as a punishment would not function properly. In fact, past research has demonstrated that observers make inferences about punishment and norm-violation when witnessing an instance of social exclusion (Rudert, Ruf, et al., 2020). This line of reasoning suggests that being socially excluded can have a stigmatizing effect. It follows that the information communicated by disclosing a social exclusion experience can further threaten the reputation of the target and possibly lead to further exclusion, again converging with the findings observed in Chapter 2 suggesting that those who disclose past rejection experiences can incur social costs.

Emotions, when communicated, signal social information about the communicator or the way in which the communicator perceives the situation (van Kleef, 2009). Would targets of social exclusion be perceived differently based on the emotions they communicate? For instance, previous work shows that individuals feel more anger when they think they were excluded unfairly (Tuscherer et al., 2016). Would an individual then be able to signal that they were unfairly excluded by communicating or exaggerating their anger when sharing their experience with other people? What about emotions such as regret, guilt, and shame? If a target person is excluded based on a norm-violation, then other people may see this as justified (Rudert, Ruf, et al., 2020) and continue to exclude the individual. However, if the target expresses shame about what they have done, then this may help them gain re-inclusion. Previous work suggests that people who express shame and sadness after a norm-violation evoke sympathy and are punished less harshly (Halmesvaara et al., 2020). The work at the intersection of emotions and the functional nature of social exclusion seems like a promising avenue for future research. For instance, researchers can design a similar study as the one in Chapter 3 where targets of exclusion can communicate emotions such as shame and regret after being excluded. A similar design can also be implemented to study the reactions of other parties to interpersonal communication of emotions. Would the sources be more willing to include an excluded target if the target were to communicate regret? Such a question can be investigated by making sure that one player gets excluded from the ball tossing game by, for instance, programming a player's ball tosses to be significantly slower than the rest (Wesselmann et al., 2015). Afterwards, the excluded player can be programmed to communicate various emotions such as shame and regret at different levels. Such a design can allow researchers to study how sources of exclusion would react to targets' emotional reactions in general, but also specifically for shame and regret. By building on the literature on social functions of emotions, such work can test the predictions of functional accounts of social exclusion.

Temporal Need-Threat Model

The Temporal Need Threat Model (K. D. Williams, 2009) suggests that social exclusion threatens the needs for belonging, control, self-esteem and meaningful existence. This model also proposes the experience of social exclusion unfolds in three stages. The first stage is the immediate or the reflexive stage where the individual feels the sting of social exclusion. After the initial hurt people progress to the second stage, the reflective stage, in which they start appraising the situation and coping with the hurt. People only progress to the final stage

– i.e., the resignation stage, if they experience social exclusion chronically, for a long period of time.

I suggest that talking about social exclusion could take place in all three stages in various forms. For instance, targets can confront the sources and talk about their hurt in the reflexive stage (i.e., immediately after the target perceives that they have been excluded) or as exclusion is still unfolding. Besides verbal communication, in the reflexive stage non-verbal communication can also take place in the form of expressing emotions or showing signs of dissatisfaction. In Chapter 5, I discussed Social Ball with its hand-waving feature. This feature can be operationalized as a non-verbal form of communication that can be used to investigate the effects of communication in the reflexive stage.

Alternatively, targets could also choose to talk to the sources or other people in the reflective stage. Now that the initial hurt has probably subsided to a certain extent, the targets may have the chance to cope with social exclusion more effectively by seeking support from others or talking to the source about what happened. For instance, in Chapter 3, we investigated emotion communication both in the reflexive and the reflective stages to see if the stage of exclusion would influence how targets communicate their emotions to the sources. Potentially, targets can also talk about their hurt in the resignation stage. That said, since this stage is characterized by feelings of helplessness and a sort of sensitization to exclusion, people may not have the motivation to talk about their experience with others. The stage in which targets talk about social exclusion and if this has any influence on the temporal experience of social exclusion are open to further research.

I believe that one of the most pressing questions is whether talking about social exclusion can prevent one's progression to the resignation stage. Would confronting the source or talking to others at the reflexive stage help the targets with the negative effects of social exclusion? Would talking about social exclusion at the reflection stage reduce the chances of targets progressing into the resignation stage? I think the answer to these questions is both a yes and a no. Yes, because targets can potentially confront the source and stop the exclusionary acts from happening. The source may realize that they made a mistake or decide to reinclude the target after giving it some thought. Additionally, just by virtue of confronting and speaking up for themselves, targets may already feel more positive about themselves (Gervais et al., 2010). Alternatively, targets can seek support from others and, for instance, receive cognitive support helping them to reframe the situation in a positive

light (Pauw et al., 2018). Such reappraisal can help the targets deal with the negative impacts of social exclusion even if it does not, in essence, solve the fact of being excluded (Burleson & Goldsmith, 1998; Sethi et al., 2013). The answer, however, is also a no, because confrontation can lead to retaliation by the source (see Cortina & Magley, 2003 for similar work on workplace mistreatment). Similarly, talking to others can also cause reputation damage or further rejection as was shown in Chapter 2. Future work can build on the findings in this dissertation and investigate the effects of talking about social exclusion on a temporal dimension. Such work would contribute to the Temporal Need Threat Model and would also test a potential remedy to prevent entering the resignation stage.

I also tested one of the core assumptions of the Temporal Need Threat model (K. D. Williams, 2009) in Chapter 6. The tested assumption states that the initial hurt of ostracism is much like a reflex in that everyone feels hurt to a similar degree regardless of cross-cutting factors such as gender, age, or group membership. In Chapter 5, we tested this assumption and found support for it such that age, gender, and avatar choice did not significantly impact how participants experienced immediate need threat. These findings contributed to the understanding of ostracism by offering support for one of the major models in the field.

Practical Implications of Findings

I think that the frequency (Nezlek et al., 2012) and the negativity of social exclusion (Baumeister et al., 2009; Baumeister & Leary, 1995; J. Gerber & Wheeler, 2009; K. D. Williams, 2009) demonstrate the value and necessity of research in understanding social exclusion, as well as the need to put the insights to practice. More specifically, I argue that knowledge of predictors of and barriers to talking about social exclusion can have various practical benefits. In what follows I will attempt to illustrate the practical significance of work in this dissertation by drawing on the various empirical chapters.

My dissertation research can inform policy makers and practitioners trying to mitigate or prevent social exclusion. A finding from Chapter 2 was that people anticipated costs of disclosing a rejection experience unless they were talking to a close other. Additionally, Chapter 4 showed that people were more likely to engage in avoidance-oriented coping responses (minimization) than to talk about social exclusion. Taken together, these results show that an excluded

employee may not be willing to talk about their experiences with others, likely due to anticipated costs. Relevant to note is that social exclusion at the workplace is perceived as less socially inappropriate than some other forms of workplace harassment (O'Reilly et al., 2014). These findings together paint a rather grim picture such that the excluded individual may just choose to keep their struggles to themselves instead of seeking help or support from other colleagues. This silence can become even more problematic as the experience of being excluded for extended periods of time may intensify depressive symptoms (Riva, Wesselmann, et al., 2014; Riva et al., 2017; Rudert et al., 2021). Thus, a program aiming to help with social exclusion can not only focus on providing resources to people who speak up about their experiences. A successful program would have to consider the difficulties associated with disclosing having been excluded. I suggest that raising awareness about social exclusion with a program such as the one we introduced in Chapter 6 could help the organization and its employees in preventing social exclusion but also recognizing the difficulties associated with speaking up. Such a program can also potentially help change the norms within the organization surrounding social exclusion so that both the employees and the management can recognize social exclusion as the serious problem that is.

The second part of this dissertation is specifically focused on contributing to research and practice. One way I did this was to present a tool that could be used to induce feelings of exclusion and inclusion. The chapter on Social Ball also includes a tutorial and an annotated R code. This, hopefully, will enable users to easily set up the game and analyze the data generated within the game by using our code. I do hope that this new tool will stimulate research into social exclusion. But more specifically, several communication features can help researchers to answer questions about how excluded individuals communicate with the sources of exclusion. I see this capacity of Social Ball to contribute to theory as one of this dissertation's practical contributions for the researchers in this field.

Another chapter that mainly focused on practical significance was Chapter 6 in which I discussed a social skills training program that can be used to raise awareness about social exclusion. The specific program I discussed was carried out in schools across the Netherlands. Additionally, similar programs can also be carried out at other institutions or organizations with adult participants (e.g., Heath et al., 2021; Zawadzki et al., 2012). The value of training programs or any efforts to raise awareness around social exclusion becomes especially clear when considering that targets of exclusion may be

hesitant to talk about their experiences with others. As I have discussed before, in these situations, waiting around for the targets to reach out for help may be the least optimal strategy. Instead, by relying on training programs like I outlined in Chapter 6, institutions and organizations can try to mitigate or prevent social exclusion more effectively. Thus, I think the second part of this dissertation can help not only researchers but also practitioners to engage with the topic of social exclusion more. In fact, over 15,000 children in primary and secondary schools across the Netherlands have now taken part in a version of the training that we discuss in Chapter 6. I think that this number is a testament to how universities and non-profit organizations can collaborate to support their communities.

Limitations and Future Directions

One thing that I did not have the chance to do during my PhD studies was to conduct a laboratory experiment where participants could engage in less restricted forms of social interaction (e.g., a group of participants working on a task together) and more ways to engage in interpersonal communication. Such a study in which a broader range of participant behaviors can be observed would have allowed me to investigate the dynamics of the interaction that takes place amongst the participants (e.g., Kozlowski, 2015; Kozlowski & Chao, 2018). However, just around the time I would start conducting lab studies the world was hit by the Covid-19 Pandemic and we were not able to be near each other in the same physical space. Thus, lab studies were unfortunately not possible. Laboratory experiments could be implemented in future research, for instance, by relying on roleplaying methods in the laboratory in which confederates exclude a participant (Zadro et al., 2005). Alternatively, a more cost effective and social-distancing-proof version of such experiments can be conducted with video calling or simulations of video-calling apps (e.g., Goodacre & Zadro, 2010). These studies can also allow the researchers to study non-verbal forms of communication such as emotion expressions or body language (e.g., Halmesvaara et al., 2020; Lakin et al., 2008) in the context of social exclusion.

Another line of work I am excited about but have yet to launch is to utilize qualitative methods such as interviews or analyzing written participant responses in detail. These qualitative approaches can give us insights that I may have missed with the variety of methods employed in this dissertation. Although most qualitative methods require extensive studying and long processing times, there are some lower-cost ways to incorporate qualitative

analyses into most work on social psychology. One such example is reflexive thematic analysis in which researchers can code responses with the goal of developing themes from the data (for an introduction, see Braun & Clarke, 2006, 2020, 2021). For example, future work can use thematic analysis to code participants' recollections of instances in which they talked or did not talk about social exclusion to identify differences and similarities between two types of experiences. These methods can also allow researchers to inquire as to why people talk about social exclusion or what type of responses they want or get from their audience. This is not to say that these topics cannot be studied with quantitative methods but mixing qualitative and quantitative methods may provide a more comprehensive picture.

The social exclusion studies in the current dissertation did not investigate the specific characteristics of the groups in which inclusion or exclusion took place, nor did it study how members became part of the group, or how they identified with their group. As I discussed previously, social exclusion is theorized to be a social sanctioning tool (Kurzban & Leary, 2001). This line of reasoning explicitly links social exclusion to stigmatization such that stigmatization brings exclusion from the group and the resources offered by the group. Work studying norm-violations and social exclusion supports this line of reasoning (Rudert, Ruf, et al., 2020; Whitson et al., 2015) and similar theorizing also has been put forth for workplace ostracism (Henle et al., 2022). Importantly, there are large bodies of work investigating social exclusion within the context of pre-existing group memberships such as race (e.g., DeSouza et al., 2019; Killen & Stangor, 2001; Mulvey et al., 2016), gender (e.g., Bolling et al., 2012; Cursan et al., 2017; Killen & Stangor, 2001; London et al., 2012b; Reijntjes et al., 2006), sexual orientation (e.g., Aubuchon, 2019; DeSouza et al., 2017; Pachankis et al., 2008; Wang & Pachankis, 2016). These literatures suggest that targets may have meaningfully different experiences or interpretations of social exclusion depending on why they were excluded. This begs the question of how interpersonal communication about social exclusion would be influenced by group membership. Would individuals be more inclined to talk to their in-group members about exclusion? Would the reason for exclusion (identity-based or not) influence the choice of audience or the way in which people choose to talk about their experiences? Can targets of exclusion benefit from disclosing their experience or communicating their emotions about social exclusion to outgroup members? I believe that such questions are very important to investigate and would not only contribute to research on social exclusion but would also be able to offer insights for making the lives of people with stigmatized identities easier.

Another factor that influences how targets experience social exclusion is culture. Especially in the first part of the current dissertation I presented studies that relied on participants mostly from Western Europe (e.g., the Netherlands and the UK). Thus, we relied on a WEIRD (Western, Educated, Industrialized, Rich and Democratic) sample that is not representative of the world population at large (Henrich et al., 2010b, 2010a). I am not saying that social psychological research should always strive to conduct studies that can be representative of a universal experience. I am, however, saying that acknowledging the limitations of samples and contextualizing the findings of studies is crucial. This is especially important for social exclusion given that cultural background can impact people's experience and reasoning surrounding social exclusion (e.g., Over & Uskul, 2016; Pfundmair et al., 2015; Ren et al., 2013). This limitation is personally relevant to me as well. Coming from a Turkish background, the current scientific knowledge only allows me to speculate how findings may or may not generalize to a Turkish context. Future work and, I myself, need to do better. Contextualizing our findings and not overgeneralizing them is important but so is casting a wider net in terms of the questions we ask and the samples we recruit. Would I and my Dutch colleagues have a different idea about what would be the appropriate way to talk about social exclusion? Would I be evaluated negatively if I talk about feeling excluded in response to a situation where my Dutch colleagues see no reason to feel excluded? Would I judge them more harshly if they do the same? These questions can be construed as questions about communication across group memberships, but I believe that they are more than that. These questions also illustrate my role as a researcher in conducting research that is context-dependent and, in some ways, limited in its sample. I pose these few questions using the first-person pronoun to further highlight their relevance to me as a researcher. Social psychological phenomena and research may sometimes be universal but often they are contextual and motivated by personal curiosity. Therefore, I also see this section as a note to my future designing-a-new-study self to be more mindful of the various methods and contexts that the research and ideas in this dissertation can benefit from and extend to.

Note on Collaborative Efforts

Research on social exclusion has boomed in the last twenty-something years. Scholars work to publish insights and recent findings in academic books (for some recent examples, see: Liu & Ma, 2021; Riva & Eck, 2016; Rudert et al., 2019). These days, social exclusion, belonging and inclusion are topics that are

in most, if not all, major social psychology conferences. Besides being present in major psychological conferences, research on social exclusion sometimes is discussed in smaller, more specialized meetings. In fact, the first conference I attended as part of my PhD project was such a meeting. It was called the Small Group Meeting on Social Exclusion, Ostracism, and Rejection and took place in Vitznau, Switzerland. At this meeting, I met many social exclusion researchers whose work I studied, drew insights from, and repeatedly cited it in this dissertation.

In my opinion, a common thread among all these publications, conferences, and meetings is the collaborative effort of a group of motivated researchers who are trying to understand and reduce instances of social exclusion. My PhD project was also such a collaborative effort in that I was part of a larger consortium working on answering various research questions surrounding the topic of social exclusion. As part of this consortium, I worked alongside Frank Doolaard who was, at the time, a PhD candidate at Leiden University. Frank and his co-authors showed how underperforming individuals sometimes prefer to leave groups (Doolaard et al., 2021), how getting denied access to a group or being removed from a group may be similar experiences for the targets but not the sources (Doolaard et al., 2020), or how information about sexism may increase women's perception of being socially excluded (Doolaard et al., 2022). Even though we were working at different universities, we kept updating each other on our progress. Importantly, we also organized several symposia for the Dutch national social psychology conference (ASPO Conference) to not only disseminate knowledge about social exclusion, but also to bring social exclusion researchers together. Getting to meet all these researchers over the years and being part of a small-scale consortium during my PhD showed me the importance of team science and further highlighted what I thought was a crucial part of science: collaborative efforts.

Concluding Remarks

As social animals, humans have a need to belong (Baumeister & Leary, 1995) and value communicating with others (Gable & Reis, 2010; Rimé, 2009). This dissertation focuses on the intersection of these two core human qualities: belonging and communicating. More specifically, my co-authors and I worked to better understand how individuals would communicate about social exclusion. The work in this dissertation was among the first in investigating questions related to talking about social exclusion, a topic I deemed both

theoretically and practically relevant. By understanding the predictors of and barriers to talking about social exclusion we shed further light on the aversive experience of being excluded. These theoretical insights also have practical significance given that they can help practitioners devise better efforts to prevent and mitigate social exclusion. Furthermore, the second part of this dissertation includes efforts that are specifically focused on practical contributions (i.e., a training program and a paradigm to induce feelings of exclusion).

Appendix

Supplementary Materials

Supplementary Materials for Chapter 2

Study 2.1

Methods

Participants

We calculated the sample size to detect medium-sized effects with a two-way between-subjects t-test across 3 DVs (d = 0.50, overall power = .80 with .93 power for each DV, corrected p = .016, required N = 210).

Participants first answered manipulation check questions and one of the attention checks in one page. Afterwards, they answered the anticipated benefit questions in one page, and the urge questions in another page. The page order for the benefit and urge questions, and the order of the questions within pages were randomized. The assigned scenario was displayed on each following page with questions about the scenario. After answering the manipulation check questions, participants answered questions about the potential benefits of talking about this episode, and also their urge to talk about this episode in separate pages. The order of the pages, and the order of the question within pages were randomized. After being randomly assigned to either rejection (n = 110) or control (n = 110) conditions, participants read the scenarios and answered questions from the target's perspective.

Materials and Procedure

Instructions: In the following pages we will show you a hypothetical story. We are asking you to imagine being the person in the story. We are interested in what would you think or do if you were to talk about this story with others. We will show you the story in each page where there's a question about the story. That way, you can go back and forth the questions and the scenario.

General Benefits. I think talking about the event would be (1) meaningful, (2) satisfying, (3) useful, (4) would help me cope with the event.

Relief. I think talking about the event would (1) make me feel good, (2) make me relieve my emotions, (3) allow me to feel better, (4) make me feel at ease.

Urge to Talk. (1) I would like to talk about this with someone. (2) I would have the urge to talk about what happened. (3) I would feel the need to talk about this.

Results and Discussion

Exclusion Criteria

There were two pre-registered attention checks embedded into the survey. For one of the attention checks, we asked participants whether the colleagues of the person in the scenario wanted to continue working with them, or not. Depending on the condition they were assigned to, they had to choose the relevant item. For the second attention check, we embedded an item saying 'Select five' (from a Likert-type scale ranging from 1 to 7) within the *relief* questions. If participants failed both of these attention checks, we excluded them from the analyses.

Studies 2.2 and 2.3

In studies 2.2 and 2.3 we explored perceptions of competence, sociability, and morality (Brambilla et al., 2011). In the rejection vignette the targets were excluded by learning that their colleagues did not want to work with them. However, we did not provide an apparent reason for this unwillingness to work. Therefore, we wanted to see if this ambiguous rejection would impact the target's impression on all three dimensions that are evaluated. Given that the rejection took place in the workplace, one could reason that this would have the biggest impact on competence ratings. We explored this possibility both from the target's and the audience's perspective.

Methods

Participants

For both studies we calculated the sample size to detect medium-sized effects with a two-way between-subjects t-test across 4 DVs[23] (d = 0.50, overall power = .80 with .95 power for each DV, p = .05, required N = 210).

23 By powering each DV separately at .95, we arrive at .80 power ($.95^4$ = .80) to detect the effect across 4 DVs.

Materials and Procedure for Study 2.2

Participants read the same instructions as in Study 2.1.

Reluctance. How reluctant would you feel to talk about this story?

Shame. How much shame would you feel if you were to talk about this?

Negative Evaluation. I think people would negatively evaluate me if I were to talk about this story.

Willingness to Work. Upon hearing this, how willing people would be to work with you in a similar situation?

Social Perception. Instructions read: "If you were to tell this story to someone, please indicate how much others would think each adjective describes the person in the scenario." For competence participants read the items (1) Intelligent, (2) Competent (3) Efficient (4) Skillful (5) Capable; for sociability/warmth: (1) Kind, (2) Friendly (3) Warm (4) Likable (5) Helpful; and lastly for morality they read: (1) Sincere, (2) Honest (3) Trustworthy (4) Select five [attention check] (5) Respectful. All questions in this study were answered on a 7-point Likert-type scale ranging from 1 (*not at all*) to 7 (*very much*) (Study 2.2: $\alpha_{competence}$ = .98, $\alpha_{sociability}$ = .97, $\alpha_{morality}$ = .91, Study 2.3: $\alpha_{competence}$ = .96, $\alpha_{sociability}$ = .94, $\alpha_{morality}$ = .94). We presented the trait words within the 3 blocks of questions in the same page. The order of the blocks and the order of the questions within blocks were randomized.

Materials and Procedure for Study 2.3

Instructions. In the following pages we will show you a hypothetical story. We are asking you to imagine hearing this from someone else who's the same age and sex as you are. Afterwards, you will be asked a few questions about this person and your reactions to that situation. We will show you the story in each page where there's a question about the story. That way, you can go back and forth the questions and the scenario.

Reluctance. How reluctant do you think the person would feel to talk about this story?

Shame. How much shame do you think the person would feel in this situation?

Negative Evaluation. I would evaluate this person negatively if I were to hear about this story.

Willingness to Work. Upon hearing this, how willing would you be to work with this person in a similar situation?

Social Perception Dimensions. Please indicate how much each adjective describes the person in the scenario. Same items as in study 2.2.

Results

Table S.1 *Direct Unstandardized Path Coefficients of the Mediation Models in Studies 2.2 and 2.3*

	Path	*B*	*SE*	95% CI	*P*
Study 2	Condition – Neg. Eval.	2.60	.20	[2.16, 2.99]	< .001
	Condition – Reluctance	.36	.25	[-.13, .86]	.16
	Neg. Eval. – Reluctance	.69	.06	[.56, .81]	< .001
Study 3	Condition – Willingness	-.94	.19	[-1.32, -.57]	< .001
	Condition – Neg. Eval.	1.76	.19	[1.40, 2.12]	< . 001
	Neg. Eval – Willingness	-.35	.08	[-.51, -.20]	< .001

Exploratory Analyses

Descriptive statistics and the test results for the exploratory analyses on social perception dimensions can be seen in Table S.2. Participants anticipated more negative evaluations in terms of competence, sociability, and morality in the rejection than in the control condition. Similarly, the audience evaluated someone who was rejected more negatively on all dimensions compared to someone who was not rejected.

Table S.2 *Studies 2.2 And 2.3, Test Statistics for Person Perception Dimensions*

		Condition					
		Control ***M (SD)***	**Rejection** ***M (SD)***	***t***	***df***	***d***	**95% CI**
Study 2	Competence	5.20 (1.16)	2.63 (1.18)	16.04***	211.67	2.19	[2.26, 2.89]
	Sociability	5.02 (1.15)	2.70 (1.18)	14.52***	211.58	1.99	[2.00, 2.63]
	Morality	4.99 (1.07)	3.53 (1.26)	9.13***	205.31	1.25	[1.15, 1.78]
Study 3	Competence	5.29 (1.01)	4.04 (1.31)	7.89***	200.70	1.07	[.94, 1.57]
	Sociability	5.22 (0.94)	3.66 (1.16)	10.91***	205	1.48	[1.28, 1.84]
	Morality	5.24 (0.87)	4.26 (1.12)	7.21***	201.43	0.98	[.75, 1.25]

Note. *p < .05, **p < .01, ***p < .001.

Discussion

Our first set of exploratory analyses focused on person perception ratings. The data provided by the targets (Study 2.2) indicated that they anticipate being devalued on competence, sociability and morality. A closer inspection of the effect sizes suggest that targets anticipate the worst evaluation on competence, followed by sociability and then morality. The audience responses (Study 2.3) revealed that they evaluated the targets most harshly on sociability followed by similar ratings in competence and morality. These results suggest a mismatch between the targets' anticipation and the audiences' reaction, such that the target of exclusion anticipates that talking about the exclusion may yield a negative evaluation in terms of competence but obtains a negative evaluation in terms of sociability.

Study 2.4

Methods

Participants

We again calculated the sample size to detect medium-to-large sized effects with a two-way between-subjects t-test across 5 DVs (d = 0.60, overall power = .80 with .96 power for each DV, corrected p = .01, required n = 212).

Materials and Procedure.

Reluctance to Talk. Participants read "I would feel reluctant to talk about this," "I would be hesitant to share this story with other people", "I would freely discuss what happened with others" (reverse coded) (α = .82).

Anticipated Social Benefits. We measured anticipated social benefits with four items. Participants read "If I were to talk about this story, I think it would make me feel (1) accepted, (2) valued, (3) socially supported, (4) closer to the person I'm talking to" (α = .88).

Study 2.5

Methods

Participants and Design

Powering for the interaction effects, to detect a medium-to-large-sized effect (η_p^2= .08) with a 2x2 between-subjects ANOVA with a power of .80 (.96 for each IV) and p = .01, we aimed to collect data from 260 participants.

Materials and Procedure

Anticipated costs. For anticipated negative evaluation, participants read: "I think this person would negatively evaluate me if I were to talk about this story." For anticipated willingness to work, they read: "Upon hearing this, how willing this person would be to work with you in a similar situation?"

Urge to Talk. Participants read (1) I would like to talk about this with this person, (2) I would have the urge to talk about what happened with this person, and (3) I would feel the need to talk about this with this person.

Reluctance to Talk. (1) I would feel reluctant to talk about this with this person, (2) I would be hesitant to talk about what happened with this person, (3) I would freely discuss what happened with this person.

Anticipated Social Benefits and Relief. For both anticipated social benefits and relief participants first read the instruction saying: "If I were to talk about this with the person I'm thinking about, it would…" then they saw the list of statements that pertain to both in a mixed order. For anticipated relief they were presented with the same items as in Study 1. For anticipated social benefits we used the same items as in Study 2.4.

Supplementary Materials for Chapter 3

Study 3.1

Method

Participants

This study was run as part of a bachelor thesis circle. Four psychology bachelor thesis students collected data from their family and friends (convenience sampling). Each student was required to collect data from at least 50 participants. At the end of the data collection period there were 363 registered responses. We excluded the participants who had partial responses (people who started but did not finish the survey, n = 115). The remaining sample size was 248.

Measures

Full set of items used in Study 3.1 can be seen in Table S.3.

Table S.3 *Full Set of Items Used in Study 3.1.*

*For each question, please circle the number to the right that best represents the **feelings** you **were** experiencing **DURING** the game.*	**Not at all**				**Extremely**
Belonging					
I felt "disconnected" (R)*	1	2	3	4	5
I felt rejected (R)*	1	2	3	4	5
I felt like an outsider (R)*	1	2	3	4	5
I felt I belonged to the group	1	2	3	4	5
I felt the other players interacted with me a lot	1	2	3	4	5
Self esteem					
I felt good about myself*	1	2	3	4	5
My self-esteem was high*	1	2	3	4	5
I felt liked*	1	2	3	4	5
I felt insecure (R)	1	2	3	4	5
I felt satisfied	1	2	3	4	5

Meaningful existence					
I felt invisible (R)*	1	2	3	4	5
I felt meaningless (R)*	1	2	3	4	5
I felt non-existent (R)*	1	2	3	4	5
I felt important	1	2	3	4	5
I felt useful	1	2	3	4	5
Control					
I felt powerful*	1	2	3	4	5
I felt I had control over the course of the game*	1	2	3	4	5
I felt I had the ability to significantly alter events	1	2	3	4	5
I felt I was unable to influence the action of others (R)	1	2	3	4	5
I felt the other players decided everything (R)	1	2	3	4	5
Mood					
Good	1	2	3	4	5
Bad	1	2	3	4	5
Friendly	1	2	3	4	5
Unfriendly	1	2	3	4	5
Angry*	1	2	3	4	5
Pleasant	1	2	3	4	5
Happy*	1	2	3	4	5
Sad	1	2	3	4	5
Manipulation check					
*For the next three questions, please circle the number to the right (or fill in the blank) that best represents the **thoughts** you had **during** the game.*					
I was ignored*	1	2	3	4	5
I was excluded*	1	2	3	4	5
Assuming that the ball should be thrown to each person equally (33% if three people; 25% if four people), what percentage of the throws did you receive?*			____ %		

Note. The items with an asterisk represent the items that are used in the short version of the questionnaire which was incorporated in Studies 3.2 and 3.3. The item "I felt I had control over the course of the game" was changed to "I felt I had control over the interaction" in studies 2 and 3. Additionally, the Control subscale included the item "I felt superior." Lastly we also measured hurt feelings by adding the item "I felt hurt" in Studies 3.2 and 3.3.

Extra Measures

This study was conducted as part of a bachelor thesis course. Therefore, there were some other variables which participants filled in before playing the game. To complete their theses, students incorporated 4 items from the Revised Cheek and Buss Shyness Scale (Crozier, 2005); the extroversion subscale of the 10-item Big Five Inventory (Rammstedt & John, 2007); and the Single Item Need to Belong scale (Nichols & Webster, 2013).

Study 3.2

Method

Participants

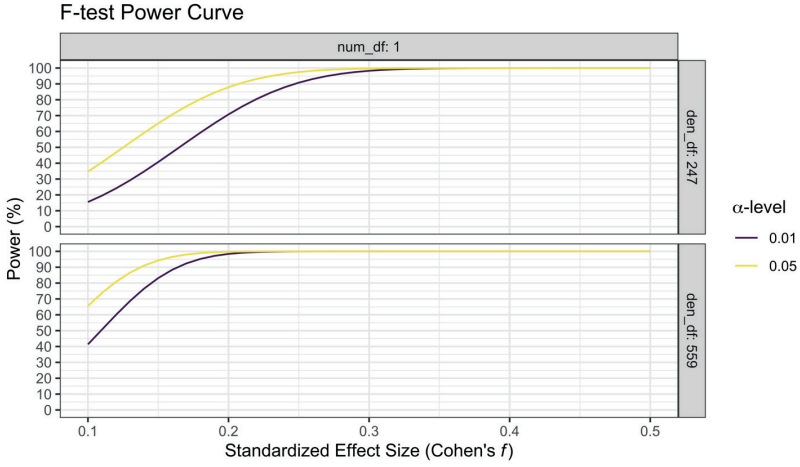
We pre-registered our stopping rule as two weeks of data collection. Participants were Dutch university students who took part in the study in exchange of partial course credit. At the end of two weeks, we had registered 677 responses. We asked participants to complete the study on a laptop or a desktop computer and we did not allow mobile devices to continue the study (n = 46). We also removed partial responses (n = 42). We also had two pre-registered exclusion criteria. We removed participants who did not indicate that their English level was sufficient to follow the study (n = 35) and participants who failed both attention checks (n = 1). The final sample size consisted of 563 participants.

Power Curve

To provide additional details of our power analysis, we re-ran the power analysis (which we originally conducted using Gpower) using the R package SuperPower (Lakens & Caldwell, 2021). For both studies we used the same numerator degrees of freedom (df = 1) since both designs are 2x2 factorial designs and the degrees of freedom (df) for the interaction in these designs is 1 (i.e., (2-1)*(2-1)). The denominator df was 247 for the second study and 559 for the third study. We plotted two lines for alpha levels of .05 and .01. Across both studies we have reasonable power (>80%) to detect a medium effect size (f = .25) at both levels of alpha. Study 3.2 (top panel) has less power to detect smaller effect sizes than Study 3 (bottom panel). While conducting Study 3.3, we were aware that we would not be able to recruit as many participants as Study 3.2 because the study was going to take place in the lab (as opposed to Study 3.2 which was online). Since we strengthened our manipulation and our

cover story, we believed that this was a reasonable trade-off to make. The power curves for both alpha levels for Studies 3.2 and 3.3 can be seen in Figure S.1.

Figure S.1 *F-Test Power Curve for the Interaction Tests in Studies 3.2 And 3.3.*



Procedure

Participants completed the study online and, in each condition, they played two rounds of Cyberball. After playing the first Cyberball round (inclusion or exclusion) participants answered emotion and need items depending on the response type condition that they were assigned to. If they were in the actual response condition, they were told that their answers would just be saved. If they were in the shared response condition, they were informed that their answers would be shared with the other two players before they play the second round of Cyberball. After answering the emotion and need questions they moved on to the second Cyberball round. In the second Cyberball round all the participants were included. After the second round of Cyberball, participants were asked to report their age, gender, whether their English level was sufficient to understand the survey and were prompted about the hypothesis and for comments.

Measures

Participants filled the shorter version of the Need Satisfaction Questionnaire that was used in Study 1. This version (Ren et al., 2016) measures need satisfaction with three questions in each subscale – i.e., belonging (α = .94), meaningful existence (α = .93), control (α = .77), and self-esteem (α = .89), – (e.g., *"I felt good about myself," "I felt disconnected"*; 1 = *not at all,* 5 = extremely). The scores from these subscales were averaged to a single need satisfaction score (α = .93). Order of the subscales of the short-need scale and the emotion items (three emotions as a group) were randomized. The order of the questions within each subscale was also randomized. The items that are in the short version of the scale are marked with an asterisk (*) in Table S.3.

Attention Checks. We used two attention checks. One item asked participants to select the anchor labeled "four" (*"Please select four"*) and it was embedded in the meaningful existence subscale of the Need Satisfaction Scale. The other attention check was a paragraph describing why we used attention checks. After the paragraph we asked participants to select the correct option amongst the presented choices. However, within the paragraph, we instructed participants to ignore that question and select a certain item from the presented answer options.

Study 3.3

We pre-registered our hypotheses and our stopping rules for data collection. Based on the results of both Study 3.1 and Study 3.2, that we felt offer more support – if anything – for the likelihood that people will downplay their emotions relative to exaggerate, we proposed that people might downplay their emotions and need satisfaction when they are asked to share it. Therefore, in Study 3.3 we tested the interaction such that people downplay how they feel more so in the exclusion condition than they do in the inclusion condition. Again, based on our findings in Study 3.2 we reasoned that we could also observe main effects of response type and exclusion and not an interaction. This would mean that people downplay their emotions regardless of their inclusionary status. The third possibility is a combination of the above two, but crucially we then would expect to find that people are more likely to downplay the negative ostracism experience than to exaggerate the positive inclusion experience to those sources.

Method

Participants

We pre-registered our stopping rule as two weeks (10 working days) of data collection. Participants were first year psychology students who took part in the study in exchange of partial credit. The study took part in the experimental psychology lab of a Dutch university and participants were allowed to take the study either in Dutch or in English. There were 250 registered responses of which 3 were partial responses and were removed (remaining n = 247). All participants in the final samples answered both of the attention checks correctly (nEnglish = 115, nDutch = 132). The power curve for this study is presented in Figure S.1.

Procedure

Participants registered for the study online and arrived at the lab individually for the experimental session. At the beginning of the experimental session all participants received a short instruction about the upcoming experiment. The cover story was that we designed a new web game to be used in primary schools across Netherlands in social interactions trainings and that we wanted feedback about this newly designed game. This game is the more visually engaging version of Cyberball (here after referred to as Social Ball to avoid confusion). We provided participants with numerical codes that were supposedly essential in matching them with other players who were at the experimental session with them so that they can play the game together. In reality participants played the game with pre-programmed simulations. After participants were seated in individual cubicles, we provided each of them with this code and told them that they would have to enter to the code continue with the study. Participants first read and confirmed the informed consent and were presented with more detailed instructions for the experiment. After entering the code participants were directed to a new window in which they played the first round of Social Ball. They played the game with three other computer simulated avatars. To make sure that they played the game till the end (30 ball tosses) we presented the participants with another unique code at the end of each game and they were not able to continue the study without providing the code. Participants were either excluded or included in the first round of Social Ball. Following the first round, they were asked to report how they felt during the game. Afterwards, as part of our cover story participants were asked to provide feedback regarding the game by answering some questions and writing whatever feedback they had about the game. Crucially at this part of the survey, we told participants that now that they had thought

more about the game, we were interested in hearing about how they felt during the game one more time. Half of the participants were led to believe that they would just report their feelings again, and the other half were led to believe that their answers would be shared with the people whom they played the first round with. After reporting how they felt during the game for the second time, participants proceeded to play the second round of the game, which was a pre-programmed inclusion game for all participants. Lastly, participants indicated whether they were feeling any pain, were asked about whether and if so, why they changed their answers, provided their age, gender and indicated whether they played such a ball-tossing game before.

Measures and Materials

Participants played two rounds of Social Ball with 3 other pre-programmed players. We used the same need satisfaction and emotion items as in Study 2 (belonging, α_{t1} = .91, α_{t2} = .94; meaningful existence, α_{t1} = .89, α_{t2} = .93; control, α_{t1} = .76, α_{t2} = .78; and self-esteem, α_{t1} = .86, α_{t2} = .88; overall need satisfaction, α_{t1} = .93, α_{t2} = .93). The order of subscales of NTQ-short and mood subscale and the items within each subscale were randomized. Participants filled both the need satisfaction and mood items twice (time 1 vs. time 2). Two thirds of the participants indicated that they participated in a similar ball-tossing study before (149 out of 243)[24].

Social Ball. The newly designed version of Cyberball has some new features and more advanced visuals. We designed the new game in a collaboration with a Dutch non-governmental organization (NGO) and a software development studio. The interface of the game was in Dutch, and this is in line with our cover story about the game being used in primary schools in The Netherlands. Before the game starts participants were able to choose their avatar out of the six pre-designed avatars (4 male and 4 female). They were also asked to provide a screen name and indicate their age and gender in the same page. After finishing these they click next and proceed into the loading screen followed by the game itself.

Manipulation Checks. We used the same manipulation check items for feelings of exclusion as in Study 3.2.

24 Given that we conducted study 3.3 in the lab with a new game and a new cover story we decided not to exclude participants who had played a version of Cyberball in previous studies.

Attention Checks. We used two attention checks. One was an item embedded in questions about social ball and asked participants to select the anchor labeled three ("*Please select three.*"). The other one was the same paragraph question as in Study 3.2.

Filler Task. As a filler task we asked participants to provide feedback about the newly designed Social Ball game. Participants read eight statements about how they felt about the various aspects of the game (e.g., *"I liked the visuals of the game;" "I understood what I had to do in the game."*). Following the statements, we asked participants to take a moment to reflect on the game and their interaction with the other players and provide the designers with feedback on how to improve the game. Participants spent an average of 180.43 seconds (*SD* = 120.34, range = 37.73-855.61) with the filler task.

Results of Exploratory Analyses

Could People be Engaging in Differentiated Gaming?

So far, we have reported our confirmatory hypotheses and we observed no evidence that excluded participants gamed their emotions or need satisfaction more than the included participants. However, no mean difference in terms of the reported or shared emotions does not necessarily mean that people did not game their emotions. It could also be that participants engaged in differentiated gaming. That is, while some participants exaggerated the intensity of reported emotions, some might have downplayed it. When aggregated, these differences could potentially cancel each other out. To investigate this further we calculated and explored the absolute and mathematical differences between the actual and shared reports in Study 3.3. In Table S.4, we present summary statistics regarding the number of participants who adjusted their answers per condition, and the absolute and mathematical difference between their Time1 (T1) and Time2 (T2) responses. We refrained from using inferential tests due to the low number of participants who adjusted their answers.

Table S.4 *Summary Statistics for Those Who Gamed in Study 3.3*

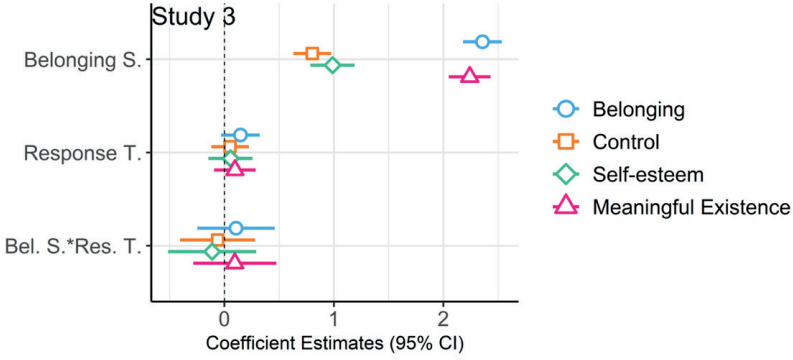
	# of people gamed		Absolute Difference		Mathematical Difference	
	Inclusion	**Exclusion**	**Inclusion** M (SD)	**Exclusion** M (SD)	**Inclusion** M (SD)	**Exclusion** M (SD)
Sadness						
Private	5	16	1 (0.00)	1.38 (0.72)	0.20 (1.10)	-0.38 (1.54)
Public	3	25	1 (0.00)	1.44 (0.71)	-0.33 (1.15)	0.24 (1.61)
Anger						
Private	4	19	1 (0.00)	1.37 (0.60)	-0.50 (1.00)	0.63 (1.38)
Public	6	21	1 (0.00)	1.14 (0.36)	-0.67 (0.82)	0.29 (1.21)
Hurt						
Private	7	21	1.14 (0.38)	1.38 (0.74)	0.00 (1.29)	-0.33 (1.56)
Public	6	30	1 (0.00)	1.53 (0.78)	-1 (0.00)	0.33 (1.71)
Need Sat.						
Private	51	52	5.57 (2.73)	4.42 (2.04)	0.12 (2.90)	-0.15 (4.60)
Public	56	56	5.21 (3.29)	5.41 (2.99)	1.02 (3.24)	0.05 (5.05)

Whether or not participants changed their emotions was assessed by whether or not the T1 measure was identical to the T2 measure. The absolute difference score measures to what extent participants reported a different intensity – irrespective of it being lower or higher – at T1 than at T2. The mathematical difference measure does take the direction into account and is assessed by subtracting the T1 score from the T2 score, such that negative numbers indicate downplaying and positive number indicate exaggeration. Higher absolute differences could be indicative of more gaming, irrespective of its direction (i.e., downplaying or exaggerating). If these absolute measures would be higher in the public condition, while on average we did not observe a difference in the intensity ratings, this would signal that part of the participants gamed by exaggerating their emotions while others gamed by downplaying their emotions. As Table S.4 shows, the results do not provide evidence for differentiated gaming strategies. The proportions of participants with different levels for T1 and T2 did not seem to be affected by whether or not these reports were actual or shared. Mean absolute differences also displayed a similar pattern across actual and shared response types.

We also investigated whether people misrepresent each fundamental need (instead of a single need threat score). We present the results in Figure S.2.

Participants reported less need satisfaction in exclusion than in inclusion across all needs. However, the results did not provide support for misrepresentations of separate needs to others.

Figure S.2 *The Visualization of the Regression Analysis for Separate Needs in Study 3.3*



Bayesian Analyses

We have also conducted Bayesian alternatives of the regression models we report in the main manuscript. We conducted these analyses by using the bayestestR (Makowski et al., 2019b) and the rstanarm (Gabry et al., 2020) packages in R. We fitted the Bayesian versions of the models previously reported in frequentist analyses in the main manuscript (i.e., i.e., the belonging status, response type and their interaction are regressed onto the relevant outcome variable). For each test we compared the posterior distribution to a normal prior distribution that is centered around zero with a standard deviation of one (M = 0, SD = 1). We selected this prior distribution to represent the situation that participants do not change their answers. It was informed by the results of the frequentist tests showing no support for the alternative hypothesis that participants game their emotions.

Across all three studies we observed a similar pattern of results (See Table S.5 for a full set of results). Similar to the frequentist analyses, bayes factors indicated more support for the alternative hypothesis for belonging status. That is, the data was more probable under the assumption that participants reported more negative emotions and need threat in the exclusion condition than in the inclusion condition. The important piece of evidence for our hypotheses is the evidence with regards to the gaming hypothesis (i.e., a significant interaction effect

between belonging status and response type). In Study 3.1, there is anecdotal evidence against the alternative hypothesis for anger, strong evidence for sadness, and moderate evidence for need threat. These do not provide consistent evidence against the interaction effect. This resonates with frequentist analyses which revealed a significant interaction for some outcome variables. At the time, we decided to pursue this line of work and conducted two separate confirmatory studies (Study 3.2 and 3.3). In Study 3.2 (confirmatory study with a higher sample size) the evidence against the interaction effect is moderate for all outcome variables. In Study 3.3, the evidence against the gaming hypothesis was moderate for anger, anecdotal for sadness and hurt, and strong for need threat.

Table S.5 *Bayesian Alternatives for the Confirmatory Regression Analyses*

Study and Variables	Median	89% CI	ROPE	% in ROPE	BF_{10}
Study 3.1					
Anger					
Belonging	-1.03	[-1.27, -.78]	[-.11, .11]	0%	> 1000
Response	-.04	[-.08, -.01]	[-.11, .11]	100%	.324
Bel.*Response	.09	[.02, .16]	[-.11, .11]	78.55%	.658
Sadness					
Belonging	-1.12	[-1.36, -.88]	[-.12, .12]	0%	> 1000
Response	-.01	[-.05, .03]	[-.12, .12]	100%	.026
Bel.*Response	.01	[-.07, .09]	[-.12, .12]	100%	.041
Need threat.					
Belonging	-1.35	[-1.50, -1.20]	[-.09, .09]	0%	> 1000
Response	-.04	[-.07, .00]	[-.09, .09]	100%	.214
Bel.*Response	.07	[.00, .13]	[-.09, .09]	76.69%	.318
Study 3.2					
Anger					
Belonging	-1.01	[-1.17, -.86]	[-.11, .11]	0%	>1000
Response	-.18	[-.33, -.03]	[-.11, .11]	16.29%	.99
Bel.*Response	.16	[-.18, .46]	[-.11, .11]	33.46%	.28
Sadness					
Belonging	-1.13	[-1.30, -.97]	[-.12, .12]	0%	>1000
Response	-.17	[-.33, .00]	[-.12, .12]	27.81%	.56
Bel.*Response	-.10	[-.41, .24]	[-.12, .12]	46.17%	.20

Hurt					
Belonging	-1.06	[-1.50, -1.29]	[-.12, .12]	0%	> 1000
Response	-0.18	[-.20, .01]	[-.12, .12]	21.56%	.83
Bel.*Response	0.14	[-.13, .31]	[-.12, .12]	40.15%	.23
Need threat					
Belonging	-1.40	[-1.51, -1.29]	[-.10, .10]	0%	> 1000
Response	-.10	[-.10, .33]	[-.10, .10]	46.07%	.29
Bel.*Response	.08	[-.53, .33]	[-.10, .10]	52.84%	.14
Study 3.3					
Anger					
Belonging	-1.03	[-1.23, -.81]	[-.10, .10]	0%	> 1000
Response	.11	[-.10, .32]	[-.10, .10]	46.33%	.18
Bel.*Response	-.10	[-.51, .32]	[-.10, .10]	34.99%	.27
Sadness					
Belonging	-1.10	[-1.30, -.87]	[-.10, .10]	0%	> 1000
Response	.10	[-.12, .32]	[-.10, .10]	50.62%	.16
Bel.*Response	-.21	[-.64, .23]	[-.10, .10]	23.57%	.36
Hurt					
Belonging	-1.35	[-1.59, -1.12]	[-.12, .12]	0%	> 1000
Response	.12	[-.11, .36]	[-.12, .12]	47.12%	.21
Bel. *Response	-.27	[-.77, .17]	[-.12, .12]	22.10%	.45
Need threat					
Belonging	-1.59	[-1.71, -1.47]	[-.09, .09]	0%	> 1000
Response	-.09	[-.22, .04]	[-.09, .09]	52.85%	.167
Bel.*Response	-.01	[-.24, .23]	[-.09, .09]	58.48%	.121

Note. CI = Credible Interval, gives the range containing the 89% most probable values. Region of Practical equivalence (ROPE), here defined as the tenth of the standard deviation of the relevant response variable (.1*SD around 0). % in ROPE = Percentage of the 89% CI that falls within the ROPE. This percentage indicates how much of our posterior falls within the region of practical equivalence -i.e., how much of the posterior distribution is within a "negligible effect size" range. BF_{10} = Bayes Factor indicating support for the alternative hypothesis over the null hypothesis.

Another piece of informative evidence from the Bayesian analyses comes from the results pertaining to region of practical equivalence (ROPE). We define this area as the tenth of the standard deviation of the relevant response variable (.1*SD around 0)(Kruschke, 2018). This area represents the area around 0 that is practically equal to zero – i.e., a negligible effect. An important column in Table S.5 then is the "% in ROPE" column, which shows the percentage of the posterior distribution that falls in this region of practical equivalence. That is, this percentage reflects how much of values in the posterior distribution fall within this area can be deemed as negligible. When looking at these values one can clearly see that one effect that we clearly observed across all three studies is consistently fully outside of this range: the effect of belonging status on all outcome variables. Importantly, for the interaction term this percentage is always higher than 20% and sometimes it is a 100%. We take this as another piece of evidence against the gaming hypothesis in this study.

Supplementary Materials for Chapter 4

Study 4.1

We first investigated the underlying factor structures for the appraisals of workplace ostracism and coping responses by conducting a series of exploratory factor analyses (EFAs). Next, based on the results of the EFAs we tested structural equation models (SEMs). Here we report the explored factor structures and SEM models that are not reported in the main manuscript.

Factor Structures

Appraisals of Workplace Ostracism

We investigated the factor structure of the three constructs that we used to measure perceptions of workplace ostracism by conducting an exploratory factor analysis. In the main document we report our final factor analysis. Here, we report the two alternative factor analyses with 2 or 1 factor solutions. See Table S.6 for the factor loadings of both factor solutions. We used principal axis factoring method with oblique (Oblimin) rotation and conducted the analysis using the fa() function of the R package psych (Revelle, 2021). The two-factor solution provided worse fit than the 3-factor solution, $\chi^2(64, N = 258) = 314.60$, $p < .001$, BIC = -.40.73, CFI = .89, TLI = .84, RMSEA = .123, 95% CI (.107, .140). We also tried a single-factor solution, $\chi^2(77, N = 258) = 695.26$, $p < .001$, BIC = 267.68, CFI = .72, TLI = .67, RMSEA = .176, 95% CI (.163, .191). Both the two-factor and the single-factor solutions provided worse fit than the three-factor solution that differentiates each appraisal into a separate factor.

Coping Responses

We conducted an EFA with all coping responses. The results of the PA suggested a four-factor solution and thus we conducted an EFA with four factors using principal axis factoring and oblique rotation (Oblimin) again using the fa() function of the psych package in R (Revelle, 2021). We decided to remove two of the items from the avoidance subscale due to low communality ratings and cross-loading. We then conducted an EFA with the remaining items (n = 16) and the four-factor solution provided acceptable fit χ^2 (87, N = 258) = 278.68, $p < .001$, CFI = .94, TLI = .90, RMSEA = .092, 95% CI (.078, .107). Factor loadings are presented in Table S.7.

Table S.6 *Alternative Factor Solutions for the Perceptions of Workplace Ostracism in Study 4.1*

		Two-factor Solution		Single-factor Solution
		Factor 1	**Factor 2**	**Factor 1**
Ambiguity				
	1	**-.66**	-.05	**-.68**
	2	**-.66**	-.07	**-.69**
	3	**-.47**	.06	**-.42**
Intent				
	1	**.85**	-.05	**.79**
	2	**.80**	.00	**.78**
	3	**.85**	-.15	**.71**
	4	**.69**	.13	**.77**
	5	**.67**	-.04	**.62**
	6	**.78**	.07	**.82**
	7	**.67**	.14	**.76**
	8	**.43**	.17	**.55**
Intensity				
	1	-.04	**.91**	**.57**
	2	.03	**.81**	**.58**
	3	.06	**.86**	**.64**

Note. The factor loadings higher than .30 are shown in bold.

Table S.7 *Factor Loadings for Coping Responses in Study 4.1*

	Factor 1	Factor 2	Factor 3	Factor 4
Confrontation				
1. I told the primary person(s) to not treat me that way.	**.86**	-.08	.14	.01
2. I told the primary person(s) that I didn't like what was happening.	**.88**	-10	.15	-.04
3. I confronted the primary person(s).	**.91**	.00	.02	.01
4. I asked the primary person(s) why I was excluded.	**.82**	.08	-.12	.01
5. I discussed what happened with the primary person(s).	**.86**	.16	-.13	-.03
6. I made a joke about what happened to the primary person(s).	**.45**	.11	-.20	.04
Emotional Support seeking				
1. I talked to someone about how I felt.	.05	**.79**	.13	.00
2. I tried to get emotional support from friends and relatives.	.00	**.50**	.23	-.08
3. I discussed my feelings about the situation with someone.	.01	**.89**	.07	-.01
4. I got sympathy and understanding from someone.	.00	**.88**	-.04	.01
Instrumental support seeking				
1. I asked people who have had similar experiences what they did.	.03	.12	**.66**	.06
2. I tried to get advice from someone about what to do.	-.01	.04	**.91**	-.05
3. I talked to someone to find out more about the situation.	.06	.27	**.60**	.02
4. I talked to someone who could do something concrete about the situation.	.23	.11	**.59**	-.02
Minimization				
1. I told myself that what happened wasn't important.	-.03	.07	-.08	**.70**
2. I just tried to forget what happened.	.07	.01	.06	**.82**
3. I just ignored it.	-.07	-.23	-.08	**.55**
4. I just put up with it.	-.27	-.02	.04	**.46**

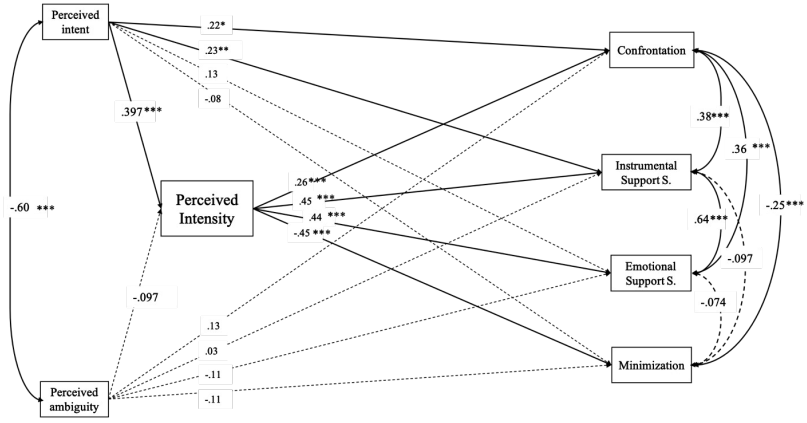
Note. Two items that initially belonged to the avoidance subscale were not included in the final set of items ("I tried to avoid/stay away from the primary person(s)," "I tried not to make the primary person(s) angry.").

Structural Equation Models

Attributions of a stressor shapes its appraisals (Lazarus & Folkman, 1984). Previous work with workplace incivility shows that people appraise a situation more negatively if they perceive that the source intended to harm them (Marchiondo et al., 2018). We wanted to test this model with our data and see if attributions about the episode would relate to how intensely the episode is experienced. We did this in two ways. First, we tested a model with direct paths from perceived intent and ambiguity to perceived intensity. Second, we tested a model with a direct path from perceived ambiguity to perceived intensity.

We first report the results of the model with perceived ambiguity and perceived intent as both predictors of perceived intensity. See Figure S.3 for the simplified depiction of the model and see Table S.8 for the direct and indirect effects in the model. The model provided good fit to the data χ^2 = 4.74, df = 3, χ^2/df = 1.49, p = .19, CFI = .99, TLI = .96, RMSEA = .047, AIC = 8083.61, SRMR = .018, ECVI = .507.

Figure S.3 *Simplified Depiction Of The First Manifest Model From Study 4.1*



Note. Model with the manifest variables incorporating all coping responses. For the sake of simplicity, we left out the paths from control variables (age, gender, self-efficacy, and WOS).

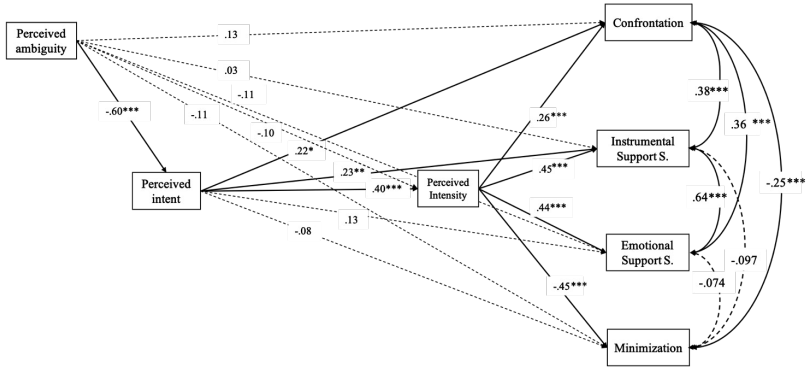
Table S.8 *Standardized Direct and Indirect Effects for the Model with all Coping Responses in Study 4.1*

Effects	Confrontation	Instrumental	Emotional	Minimization
Direct effects	β	β	β	β
Self-efficacy	.04	.03	-.56	.15**
WOS	-.074	.02	-.04	.13**
Age	-.10*	-.09	-.06	.01
Gender	.21***	-.02	-.09	.02
Indirect effects	Confrontation β (95% BCI)	Instrumental β (95% BCI)	Emotional β (95% BCI)	Minimization β (95% BCI)
Intent via Intensity	.10** (.05, .17)	.18*** (.11, .26)	.17***(.12, .31)	-.18***(-.28, -.12)
Ambiguity via Intensity	-.03 (-.05, .00)	-.04 (-.07, .01)	-.04 (-.08, .01)	.04 (-.01, .08)

Notes. $N = 258$, β = Standardized direct and indirect effects. The bias corrected accelerated confidence intervals are based on 1000 bootstrap samples. Instrumental = Instrumental support seeking, Emotional = Emotional support seeking. Gender: 0 = Female, 1 = Male. This table is based on the model presented in Figure S.4. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Second, we report the results of the model where perceived ambiguity predicts perceived intent and perceived intent predicts perceived intensity. See Figure S.4 for the simplified visual version of the model and Table S.9 for the indirect effects. The model provided good fit to the data $\chi^2 = 19.31$, $df = 7$, $\chi^2/df = 2.76$, $p = .007$, CFI = .98, TLI = .89, RMSEA = .083, SRMR = .032, AIC = 8089.63, ECVI = .532. None of the direct effects from perceived ambiguity to coping responses were statistically significant ($ps > .08$). Investigation of the indirect effects revealed that perceived ambiguity was significantly related with all coping responses via intent and intensity (see last row of Table S.9).

Figure S.4 *Simplified Depiction of the Second Manifest Model From Study 4.1*



Note. Model with the manifest variables incorporating all coping responses. For the sake of simplicity, we left out the paths from control variables (age, gender, self-efficacy, and WOS).

Table S.9 *Standardized Indirect Effects for the Second Manifest Model*

Indirect effects	Confrontation β (95% BCI)	Instrumental β (95% BCI)	Emotional β (95% BCI)	Minimization β (95% BCI)
Ambiguity via Intent	-.13*** (-.16, -.09)	-.14** (-.17, -.04)	-.08 (-.14, .01)	-.05 (-.03, .11)
Intent via Intensity	.11** (.04, .17)	.18*** (.12, .26)	.17*** (.12, .20)	-.18*** (-.29, -.12)
Ambiguity via Intent via Intensity	-.06** (-.08, -.02)	-.11*** (-.12, -.05)	-.10*** (-.14, -.05)	.11*** (.05, .13)

Notes. N = 258, β= Standardized direct and indirect effects. The bias corrected accelerated confidence intervals are based on 1000 bootstrap samples. Instrumental = Instrumental support seeking, Emotional = Emotional support seeking. This table is based on the model presented in Figure S.5. *p < .05, **p < .01, ***p < .001.

Studies 4.2.1, 4.2.2, and 4.2.3

Methods

Measures and Materials

Table S.10 *Vignette Extracts Used to Manipulate Appraisal Levels in Studies 4.2.1, 4.2.2 and 4.2.3*

	Level	
Appraisal Type	**High**	**Low**
Study 4.2.1. Intensity	This makes you feel ignored and excluded and you think that these behaviors are kind of a big deal. You are bothered by these behaviors.	This makes you feel ignored and excluded but you do not think that these behaviors are that big of a deal. You are not bothered by these behaviors.
Study 4.2.2. Intent	This makes you feel ignored and excluded and you think your colleague does these things intentionally. You think that they want to hurt in you in some way.	This makes you feel ignored and excluded but you do not think your colleague does these things intentionally. You do not think that they want to hurt you.
Study 4.2.3. Ambiguity	This makes you feel ignored and excluded yet you are not certain if you are actually ignored or excluded. For example, you cannot tell whether they are really giving you the cold shoulder or not inviting you to events.	This makes you feel ignored and excluded, and you are certain that you are actually ignored or excluded. For example, you feel certain that they are really giving you the cold shoulder and not inviting you to events.

Note. These extracts were appended to the body of the workplace ostracism vignette, which was the same in each condition.

Appraisals

For attributions of intent, we selected three items from the set of items in Study 1 (e.g., *"I would think that the primary person(s) committed this behavior on purpose," "I would think that the incident was accidental (R)," "I would think that the primary person(s) intended to hurt me in some way,"*).

Reliability Scores for Coping Responses and Appraisals.

Table S.11 *Reliability Scores for Each of the Subscales for Appraisals and Coping Responses in Studies 4.2.1, 4.2.2, and 4.2.3.*

	Cronbach's α		
Variable	Study 4.2.1	Study 4.2.2	Study 4.2.3
Perceived intensity	.90	.89	.90
Perceived intent	.70	.84	.76
Perceived ambiguity	.69	.70	.84
Confrontation	.87	.88	.91
Instrumental support seeking	.87	.88	.88
Emotional support seeking	.90	.91	.90
Minimization	.83	.81	.84

Note. For perceived ambiguity in Study 2.3, we report spearmen-brown correlation coefficient instead of Cronbach's alpha because the measure only consists of two items.

Results

For each study in Study 4.2, we ran three sets of analyses. First, we ran confirmatory factor analyses (CFAs) to validate the factor structures that we observed in Study 4.1 both for the appraisals and the coping responses. For the CFAs we used the R package lavaan (Rosseel, 2012) with maximum likelihood estimation. The factor structures that we aimed to confirm for appraisals and coping responses can be seen in Table 4.1 and Table 4.2 in chapter 4 respectively. We report both absolute and incremental fit indices for the CFAs and interpret the results based on the cutoff values proposed by previous work (Hu & Bentler, 1999). Below we report the results of the CFAs in detail. We also report the correlations between perceived appraisals in each study.

Study 4.2.1 Intensity

Factor Structure of Appraisals and Coping. First, we conducted a 3-factor CFA on appraisals of intensity, intent and ambiguity and the results of this analysis provided good fit, $\chi^2(24, N = 333) = 59.18$, $p < .001$, CFI = .97, TLI = .96, RMSEA = .066, 95% CI (.045, .088), SRMR = .050. Next, we ran another CFA for coping responses with four factors and the results provided good fit, $\chi^2(129, N = 333) = 309.99$, $p < .001$, CFI = .96, TLI = .95, RMSEA = .065, 95% CI (.056, .074), SRMR = .057. The results of the CFAs validate the factor structure observed in the first study.

How is the Level of Intensity Related to Other Appraisals? Perceived intensity was positively correlated with perceived intent, $r = .49$, $p < .001$, 95% CI, [.38, .58], and negatively correlated with perceived ambiguity, $r = -.40$, $p < .001$, 95% CI, [-.50, -.28]; and perceived intent was negatively correlated with perceived intent, $r = -.50$, $p < .001$, 95% CI, [-.59, -.40].

Study 4.2.2 Intent

Factor Structure of Appraisals and Coping. The results of the CFA with the 3-factor structure for the appraisals provided good fit, $\chi^2(24, N = 329) = 45.91$, $p = .005$, CFI = .99, TLI = .98, RMSEA = .053, 95% CI (.029, .076), SRMR = .033. For coping responses, the results of the 4-factor CFA revealed good fit, $\chi^2(129, N = 330) = 292.29$, $p < .001$, CFI = .96, TLI = .96, RMSEA = .062, 95% CI (.053, .071), SRMR = .033.

How is the Level of Intent Related to Other Appraisals? Perceived intent was positively correlated with perceived intensity, $r = .53$, $p < .001$, 95% CI, [.43, .62], and negatively correlated with perceived ambiguity, $r = -.51$, $p < .001$, 95% CI, [-.60, -.40]. Perceived ambiguity and perceived intensity were also negatively correlated, $r = -.51$, $p < .001$, 95% CI, [-.60, -.40].

Study 2.3 Ambiguity

Factor Structure of Appraisals and Coping. For the appraisals, the 3-factor solution provided good fit, $\chi^2(17, N = 330) = 41.73$, $p < .001$, CFI = .99, TLI = .98, RMSEA = .067, 95% CI (.041, .092), SRMR = .037. For coping responses, the results of the 4-factor CFA revealed good fit, $\chi^2(129, N = 330) = 292.29$, $p < .001$, CFI = .96, TLI = .95, RMSEA = .063, 95% CI (.053, .072), SRMR = .058.

How is the Level of Ambiguity Related to Other Appraisals? Perceived ambiguity was negatively correlated with perceived intensity, $r = -.55$, $p < .001$, 95% CI, [-.64, -.45], and perceived intent, $r = -.63$, $p < .001$, 95% CI [-.55, -.70]. Perceived intensity and perceived intent were positively correlated, $r = .54$, $p < .001$, 95% CI [.44, .63]

Supplementary Materials for Chapter 5

Study 5.2

Methods

Measures and Materials

Need Satisfaction Questions. In the main text we report the English translation of the items below. This is a short version of the Need Satisfaction Questionnaire (K. D. Williams, 2009).

1. Ik voelde dat ik controle had tijdens het spel (I felt that I had control during the game).

2. Ik voelde dat ik bij de groep hoorde tijdens het spel (I felt like I belonged to the group during the game).

3. Ik had het gevoel dat de andere spelers mij aardig vonden (I had the feeling that other players liked me). (R)

4. Ik voelde mij zichtbaar tijdens het spel (I felt visible during the game).

Sadness and anger.

5. Ik voelde mij verdrietig tijdens het spel (I felt sad during the game).

6. Ik voelde mij boos tijdens het spel (I felt angry during the game).

Questions on Post-Ostracism Behaviors. Participants were also asked to indicate what they would do if they were ostracized in real life by answering to two, optional, open-ended questions. First, they were asked to indicate what they would do if they were ostracized in real life ("*During the game you were left out. What would you do if this would happen in a different situation?"*). Second, participants were asked to indicate whom they would talk about such a situation and what they would say ("*Imagine that the previous played game would happen in real life. With whom would you talk? And what would you say?"*). Below are the original versions in Dutch.

7. In het spel werd je buitengesloten. Wat zou je doen als dit in een andere situatie zou gebeuren?

8. Stel je voor dat het voorgaande jou in het echt zou gebeuren. Met wie zou je dan praten en wat zou je dan zeggen?

Supplementary Materials for Chapter 6

Method

Materials

Need Satisfaction Questions
Items are presented in Dutch (in their original form) and the English translations are presented within parentheses.

1. Ik had tijdens het spel het gevoel dat ik erbij hoorde (During the game, I felt like I belonged).

2. Ik voelde mij onzichtbaar tijdens het spel (During the game, I felt invisible).

3. Ik voelde me goed tijdens het spel (During the game, I felt good).

4. Ik had het gevoel dat ik de baas was over het spel (I had the feeling that I was the boss of the game).

5. "Ik voelde me boos tijdens het spel (During the game I felt angry).

Discussion Statements
Below are the discussion statements following the exclusion game. Facilitators used these statements to encourage students to discuss how they would react to experiencing or witnessing social exclusion. Items are presented in Dutch (in their original form) and the English translations are presented within parentheses.

1. Er niet aan proberen te denken (You could try not to think about it).

2. Met andere mensen omgaan (You could simply start hanging out with other people).

3. Van je af bijten (You could stick up for yourself).

4. Hulp vragen aan leerkracht/iemand in je omgeving (You could ask for help from a teacher/someone around you).

5. Erover praten met vrienden en/of ouders (You could talk about it with friends and/or parents).

6. Vragen waarom je wordt buitengesloten (You could ask why you were left out).

Evaluation Statements in Dutch

Items from in Figure 6.4 appearing in the same order as the figure in the original version (in Dutch). These items were used in asking a subset of participants to evaluate the training program.

1. Ik ben aan het denken gezet over buitensluiting.

2. Ik heb inzicht gekregen in het effect van buitensluiting.

3. Ik heb inzicht gekregen in mijn eigen rol in situaties voor mensen worden buitengesloten.

4. De nabespreking les was leuk.

5. De nabespreking les was nuttig.

6. De nabespreking les was onzinnig.

7. De nabespreking les was interessant.

8. In de nabespreking les hebben we onze ervaringen in de containers gedeeld.

9. In de nabespreking les hebben we besproken hoe de sfeer in onze klaas is.

10. In de nabespreking les hebben we (nieuwe) afspraken gemaakt over hoe we met elkaar omgaan.

11. In de nabespreking les hebben we verder nagedacht over vooroordelen.

12. De begeleider stelde vragen waardoor ik aan het denken gezet.

The original versions (in Dutch) of items in Figure 6.5 appearing in the same order as the figure.

1. Na de expeditie [Hoe vaak heb je het er met klasgenoten over gehad?]

2. Na de expeditie [Hoe vaak heb je het er thuis over gehad (met bijv. je ouders, broer of zus)?]

3. Na de expeditie [Hoe vaak heb je het er met vrienden buiten school (bijv. van de sportclub) over gehad?]

References

Abrams, D., Weick, M., Thomas, D., Colbe, H., & Franklin, K. M. (2011). On-line ostracism affects children differently from adolescents and adults. *British Journal of Developmental Psychology*, *29*(1), 110–123. https://doi.org/10.1348/026151010X494089

Afifi, T. D., Shahnazi, A. F., Coveleski, S., Davis, S., & Merrill, A. (2017). Testing the ideology of openness: The comparative effects of ralking, writing, and avoiding a stressor on rumination and health. *Human Communication Research*, *43*(1), 76–101. https://doi.org/10.1111/hcre.12096

Afifi, T. D., & Steuber, K. (2009). The Revelation Risk Model (RRM): Factors that predict the revelation of secrets and the strategies used to reveal them. *Communication Monographs*, *76*(2), 144–176. https://doi.org/10.1080/03637750902828412

Afifi, T. D., & Steuber, K. (2010). The cycle of concealment model. *Journal of Social and Personal Relationships*, *27*(8), 1019–1034. https://doi.org/10.1177/0265407510378301

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, *18*(3), 91–93. https://doi.org/10.1016/j.tjem.2018.08.001

Andrade, E. B., & Ho, T. (2009). Gaming emotions in social interactions. *Journal of Consumer Research*, *36*(4), 539–552. https://doi.org/10.1086/599221

Aubuchon, S. M. (2019). *Exploring Microaggressions Among Trans Populations: Effects on Feelings of Social Exclusion*.

Aureli, N., Marinucci, M., & Riva, P. (2020). Can the chronic exclusion-resignation link be broken? An analysis of support groups within prisons. *Journal of Applied Social Psychology*, *July*, 1–13. https://doi.org/10.1111/jasp.12701

Aydin, N., Fischer, P., & Frey, D. (2010). Turning to God in the face of ostracism: Effects of social exclusion on religiousness. *Personality and Social Psychology Bulletin*, *36*(6), 742–753. https://doi.org/10.1177/0146167210367491

Baker, A. C., Jensen, P. J., & Kolb, D. A. (2005). Conversation as experiential learning. *Management Learning*, *36*(4), 411–427. https://doi.org/10.1177/1350507605058130

Baker, J. P., & Berenbaum, H. (2007). Emotional approach and problem-focused coping: A comparison of potentially adaptive strategies. *Cognition and Emotion*, *21*(1), 95–118. https://doi.org/10.1080/02699930600562276

Barbee, A. P., Rowatt, T. L., & Cunningham, M. R. (1998). When a friend is in need: Feelings about seeking, giving, and receiving social support. *Handbook of Communication and Emotion*, 281–301. https://doi.org/10.1016/B978-012057770-5/50012-6

Barthel, A. L., Hay, A., Doan, S. N., & Hofmann, S. G. (2018). Interpersonal emotion regulation: A review of social and developmental components. *Behaviour Change*, *35*(4), 203–216. https://doi.org/10.1017/bec.2018.19

Bates, D., Mächler, M., Bolker, B. M., & Walker, S. C. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*(1). https://doi.org/10.18637/jss.v067.i01

Batson, C. D., Eklund, J. H., Chermok, V. L., Hoyt, J. L., & Ortiz, B. G. (2007). An additional antecedent of empathic concern: Valuing the welfare of the person in need. *Journal of Personality and Social Psychology*, *93*(1), 65–74. https://doi.org/10.1037/0022-3514.93.1.65

Baumeister, R. F., Brewer, L. E., Tice, D. M., & Twenge, J. M. (2007). Thwarting the Need to Belong: Understanding the Interpersonal and Inner Effects of Social Exclusion. *Social and Personality Psychology Compass*, *1*(1), 506–520. https://doi.org/10.1111/j.1751-9004.2007.00020.x

Baumeister, R. F., DeWall, C. N., & Vohs, K. D. (2009). Social rejection, control, numbness, and emotion: How not to be fooled by Gerber and Wheeler (2009). *Perspectives on Psychological Science*, *4*(5), 489–493. https://doi.org/10.1111/j.1745-6924.2009.01159.x

Baumeister, R. F., & Leary, M. R. (1995). The Need To Belong: Desire for interpersonal attachments as a fundamental human-motivation. *Psychological Bulletin*, *117*(3), 497–529.

Baumeister, R. F., Nathan Dewall, C., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology*, *88*(4), 589–604. https://doi.org/10.1037/0022-3514.88.4.589

Baumeister, R. F., & Newman, L. S. (1994). How Stories Make Sense of Personal Experiences: Motives that Shape Autobiographical Narratives. *Personality and Social Psychology Bulletin*, *20*(6), 676–690. https://doi.org/10.1177/0146167294206006

Baumeister, R. F., Twenge, J. M., & Nuss, C. K. (2002). Effects of social exclusion on cognitive processes: Anticipated aloneness reduces intelligent thought. *Journal of Personality and Social Psychology*, *83*(4), 817–827. https://doi.org/10.1037/0022-3514.83.4.817

Bazarova, N. N., & Choi, Y. H. (2014). Self-disclosure in social media: Extending the functional approach to disclosure motivations and characteristics on social network sites. *Journal of Communication*, *64*(4), 635–657. https://doi.org/10.1111/jcom.12106

Bedi, A. (2021). No herd for black sheep: A meta-analytic review of the predictors and outcomes of workplace ostracism. *Applied Psychology: An International Review*, *70*(2), 861–904. https://doi.org/10.1111/apps.12238

Beeri, A., & Lev-Wiesel, R. (2012). Social rejection by peers: A risk factor for psychological distress. *Child and Adolescent Mental Health*, *17*(4), 216–221. https://doi.org/10.1111/j.1475-3588.2011.00637.x

Beike, D. R., Brandon, N. R., & Cole, H. E. (2016). Is sharing specific autobiographical memories a distinct form of self-disclosure? *Journal of Experimental Psychology: General*, *145*(4), 434–450. https://doi.org/10.1037/xge0000143

Berkowitz, L., & Harmon-Jones, E. (2004). Toward an understanding of the determinants of anger. *Emotion*, *4*(2), 107–130. https://doi.org/10.1037/1528-3542.4.2.107

Bernstein Dr., M. J., & Claypool, H. M. (2012). Not all social exclusions are created equal: Emotional distress following social exclusion is moderated by exclusion paradigm. *Social Influence*, *7*(2), 113–130. https://doi.org/10.1080/15534510.2012.664326

Bernstein, M. J., Claypool, H. M., Young, S. G., Tuscherer, T., Sacco, D. F., & Brown, C. M. (2013). Never let them see you cry: Self-presentation as a moderator of the relationship between exclusion and self-esteem. *Personality and Social Psychology Bulletin*, *39*(10), 1293–1305. https://doi.org/10.1177/0146167213495281

Bernstein, M. J., Sacco, D. F., Young, S. G., Hugenberg, K., & Cook, E. (2010). Being "in" with the in-crowd: The effects of social exclusion and inclusion are enhanced by the perceived essentialism of ingroups and outgroups. *Personality and Social Psychology Bulletin*, *36*(8), 999–1009. https://doi.org/10.1177/0146167210376059

Biggs, A., Brough, P., & Drummond, S. (2017). Lazarus and Folkman's Psychological Stress and Coping Theory. In *The Handbook of Stress and Health* (pp. 349–364). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118993811.ch21

Black, R. W. (1965). On the combination of drive and incentive motivation. *Psychological Review*, *72*(4), 310–317. https://doi.org/10.1037/h0021989

Bolling, D. Z. (2016). Unlike adults, children and adolescents show predominantly increased neural activation to social exclusion. *Social Neuroscience*, *11*(5), 475–486.

Bolling, D. Z., Pelphrey, K. A., & Vander Wyk, B. C. (2012). Differential brain responses to social exclusion by one's own versus opposite-gender peers. *Social Neuroscience*, *7*(4), 331–346. https://doi.org/10.1080/17470919.2011.623181

Brambilla, M., Rusconi, P., Sacchi, S., & Cherubini, P. (2011). Looking for honesty: The primary role of morality (vs. Sociability and competence) in information gathering. *European Journal of Social Psychology*, *41*(2), 135–143. https://doi.org/10.1002/ejsp.744

Brans, K., Van Mechelen, I., Rimé, B., & Verduyn, P. (2014). To share, or not to share? Examining the emotional consequences of social sharing in the case of anger and sadness. *Emotion*, *14*(6), 1062–1071. https://doi.org/10.1037/a0037604

Braun, V., & Clarke, V. (2006). Qualitative Research in Psychology Using thematic analysis in psychology Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, *00*(00), 1–25. https://doi.org/10.1080/14780887.2020.1769238

Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, *21*(1), 37–47. https://doi.org/10.1002/capr.12360

Breaugh, J. A., & Colihan, J. P. (1994). Measuring facets of job ambiguity: Construct validity evidence. *Journal of Applied Psychology*, *79*(2), 191–202. https://doi.org/10.1037/0021-9010.79.2.191

Buelow, M. T., Okdie, B. M., Brunell, A. B., & Trost, Z. (2015). Stuck in a moment and you cannot get out of it: The lingering effects of ostracism on cognition and satisfaction of basic needs q. *Personality and Individual Differences*, *76*, 39–43. https://doi.org/10.1016/j.paid.2014.11.051

Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as an antecedent of young children's school adjustment: An examination of mediating processes. *Developmental Psychology*, *37*(4), 550. https://doi.org/10.1037//OO12-1649.37.4.550

Bunk, J. A., & Magley, V. J. (2013). The role of appraisals and emotions in understanding experiences of workplace incivility. *Journal of Occupational Health Psychology*, *18*(1), 87–105. https://doi.org/10.1037/a0030987

Burleson, B. R., & Goldsmith, D. J. (1998). How the comforting process works: Alleviating emotional distress through conversationally induced reappraisals. *Handbook of Communication and Emotion: Research Theory, Applications, and Contexts*, 245–279. https://doi.org/10.1016/B978-012057770-5/50011-4

Cantisano, N., Rimé, B., & Muñoz-Sastre, M. T. (2013). The social sharing of emotions in HIV/AIDS: A comparative study of HIV/AIDS, diabetic and cancer patients. *Journal of Health Psychology*, *18*(10), 1255–1267. https://doi.org/10.1177/1359105312462436

Cantisano, N., Rimé, B., & Teresa Munoz Sastre, M. (2015). The importance of quality over in quantity in the social sharing of emotions (SSE) in people living with HIV/AIDS. *Psychology, Health & Medicine*, *20*(1), 103–113. https://doi.org/10.1080/13548506.2014.901544

Carter-Sowell, A. R., Chen, Z., & Williams, K. D. (2008). Social Influence Ostracism increases social susceptibility. *Social Influence*, *3*(3), 143–153. https://doi.org/10.1080/15534510802204868

Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: Evidence and implications. *Psychological Bulletin*, *135*(2), 183–204. https://doi.org/10.1037/a0013965

Carver, C., Scheier, M., & Weintraub, J. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*(2), 267–283.

Caughlin, J. P., Afifi, W. A., Carpenter-Theune, K. E., & Miller, L. E. (2005). Reasons for, and consequences of, revealing personal secrets in close relationships: A longitudinal study. *Personal Relationships*, *12*(1), 43–59. https://doi.org/10.1111/j.1350-4126.2005.00101.x

Çelik, P., Lammers, J., van Beest, I., Bekker, M. H. J., & Vonk, R. (2013). Not all rejections are alike; competence and warmth as a fundamental distinction in social rejection. *Journal of Experimental Social Psychology*, *49*(4), 635–642. https://doi.org/10.1016/j.jesp.2013.02.010

Chen, C. W. (2018). "Think before you type": The effectiveness of implementing an anti-cyberbullying project in an EFL classroom. *Pedagogies: An International Journal*, *13*(1), 1–18. https://doi.org/10.1080/1554480X.2017.1363046

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a New General Self-Efficacy Scale. *Organizational Research Methods*, *4*(1), 62–83. https://doi.org/10.1177/109442810141004

Chen, Z., Poon, K. T., Bernstein, M. J., & Teng, F. (2014). Rejecting another pains the self: The impact of perceived future rejection. *Journal of Experimental Social Psychology*, *50*(1), 225–233. https://doi.org/10.1016/j.jesp.2013.10.007

Chow, R. M., Tiedens, L. Z., & Govan, C. L. (2008). Excluded emotions: The role of anger in antisocial responses to ostracism. *Journal of Experimental Social Psychology*, *44*(3), 896–903. https://doi.org/10.1016/j.jesp.2007.09.004

Cohen, J. (1969). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.).

Cohen, J. (1998). A power primer. *Quantitative Methods in Psychology*, *112*(1), 155–159. https://doi.org/10.1037/0033-2909.112.1.155

Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, *116*(3), 457–475. https://doi.org/10.1037/0033-2909.116.3.457

Cortina, L. M., Lonsway, K. A., Magley, V. J., Freeman, L. V., Collinsworth, L. L., Hunter, M., & Fitzgerald, L. F. (2002). What's gender got to do with it? Incivility in the federal courts. *Law and Social Inquiry*, *27*(2), 235–270. https://doi.org/10.1111/j.1747-4469.2002.tb00804.x

Cortina, L. M., & Magley, V. J. (2003). Raising voice, risking retaliation: Events following interpersonal mistreatment in the workplace. *Journal of Occupational Health Psychology*, *8*(4), 247–265. https://doi.org/10.1037/1076-8998.8.4.247

Cortina, L. M., & Magley, V. J. (2009). Patterns and profiles of response to incivility in the workplace. *Journal of Occupational Health Psychology*, *14*(3), 272–288. https://doi.org/10.1037/a0014934

Crozier, W. R. (2005). Measuring shyness: Analysis of the Revised Cheek and Buss Shyness scale. *Personality and Individual Differences*, *38*(8), 1947–1956. https://doi.org/10.1016/j.paid.2004.12.002

Cundiff, J. L., Zawadzki, M. J., Danube, C. L., & Shields, S. A. (2014). Using experiential learning to increase the recognition of everyday sexism as harmful: The WAGES Intervention. *Journal of Social Issues*, *70*(4), 703–721. https://doi.org/10.1111/josi.12087

Cursan, A., Bernstein, M. J., Pascual, A., & Félonneau, M. L. (2017). Impact of gendered ingroup/outgroup ostracism on women's academic performances. *Journal of Social Psychology*, *157*(3), 338–351. https://doi.org/10.1080/00224545.2016.1215966

De Clercq, D., Haq, I. U., & Azeem, M. U. (2019). Workplace ostracism and job performance: Roles of self-efficacy and job level. *Personnel Review*, *48*(1), 184–203. https://doi.org/10.1108/PR-02-2017-0039

de Waal-Andrews, W., & van Beest, I. (2012). When you don't quite get what you want: Psychological and interpersonal consequences of claiming inclusion. *Personality and Social Psychology Bulletin*, *38*(10), 1367–1377. https://doi.org/10.1177/0146167212450463

DeHart, T., Pelham, B., & Murray, S. (2004). Implicit dependency regulation: Self-esteem, relationship closeness, and implicit evaluations of close others. *Social Cognition*, *22*(1), 126–146. https://doi.org/10.1521/soco.22.1.126.30986

Derlega, V. J., Winstead, B. A., Greene, K., Serovich, J., & Elwood, W. N. (2004). Reasons for HIV Disclosure/Nondisclosure in Close Relationships: Testing a Model of HIV–Disclosure Decision Making. *Journal of Social and Clinical Psychology*, *23*(6), 747–767. https://doi.org/10.1521/jscp.23.6.747.54804

Derrick, J. L., Gabriel, S., & Hugenberg, K. (2009). Social surrogacy: How favored television programs provide the experience of belonging. *Journal of Experimental Social Psychology*, *45*(2), 352–362. https://doi.org/10.1016/j.jesp.2008.12.003

DeSouza, E. R., Wesselmann, E. D., & Ispas, D. (2017). Workplace discrimination against sexual minorities: Subtle and not-so-subtle. *Canadian Journal of Administrative Sciences*, *34*(2), 121–132. https://doi.org/10.1002/cjas.1438

DeSouza, E. R., Wesselmann, E. D., Taschetto, L. R., Rosa, G. C., Rosa, C. F. F., Yunes, M. A. M., da Silva, G. F., & Fernandes, G. (2019). Investigating Ostracism and Racial Microaggressions Toward Afro-Brazilians. *Journal of Black Psychology*, *45*(4), 222–268. https://doi.org/10.1177/0095798419864001

DeWall, C. N., & Richman, S. B. (2011). Social exclusion and the desire to reconnect. *Social and Personality Psychology Compass*, *5*(11), 919–932. https://doi.org/10.1111/j.1751-9004.2011.00383.x

DeWall, C. N., Twenge, J. M., Gitter, S. A., & Baumeister, R. F. (2009). It's the thought that counts: The role of hostile cognition in shaping aggressive responses to social exclusion. *Journal of Personality and Social Psychology*, *96*(1), 45–59. https://doi.org/10.1037/a0013196

Doolaard, F. T., Lelieveld, G., Noordewier, M. K., Beest, I., & Dijk, E. (2022). How information on sexism may increase women's perceptions of being excluded, threaten fundamental needs, and lower career motivation. *European Journal of Social Psychology*, ejsp.2825. https://doi.org/10.1002/ejsp.2825

Doolaard, F. T., Lelieveld, G.-J., Noordewier, M. K., van Beest, I., & van Dijk, E. (2020). Get out or stay out: How the social exclusion process affects actors, but not targets. *Journal of Experimental Social Psychology*, *88*, 103946. https://doi.org/10.1016/j.jesp.2019.103946

Doolaard, F. T., Noordewier, M. K., Lelieveld, G.-J., van Beest, I., & van Dijk, E. (2021). Go on without me: When underperforming group members prefer to leave their group. *Journal of Experimental Social Psychology*, *95*, 104158. https://doi.org/10.1016/j.jesp.2021.104158

Downey, G., Mougios, V., Ayduk, O., London, B. E., & Shoda, Y. (2004). Rejection sensitivity and the defensive motivational system: Insights from the startle response to rejection cues. *Psychological Science*, *15*(10), 668–673. https://doi.org/10.1111/j.0956-7976.2004.00738.x

Duclos, R., Wan, E. W., & Jiang, Y. (2013). Show me the honey! Effects of social exclusion on financial risk-taking. *Journal of Consumer Research*, *40*(1), 122–135. https://doi.org/10.1086/668900

Dunn, A. M., Heggestad, E. D., Shanock, L. R., & Theilgard, N. (2018). Intra-individual Response Variability as an Indicator of Insufficient Effort Responding: Comparison to Other Indicators and Relationships with Individual Differences. *Journal of Business and Psychology*, *33*(1), 105–121. https://doi.org/10.1007/s10869-016-9479-0

Duprez, C., Christophe, V., Rimé, B., Congard, A., & Antoine, P. (2015). Motives for the social sharing of an emotional experience. *Journal of Social and Personal Relationships*, *32*(6), 757–787. https://doi.org/10.1177/0265407514548393

Dvir, M., Kelly, J. R., & Williams, K. D. (2019). Is inclusion a valid control for ostracism? *Journal of Social Psychology*, *159*(1), 106–111. https://doi.org/10.1080/00224545.2018.1460301

Eck, J., Schoel, C., & Greifeneder, R. (2016). Coping with or Buffering Against the Negative Impact of Social Exclusion on Basic Needs: A Review of Strategies. In *Social Exclusion: Psychological Approaches to Understanding and Reducing Its Impact* (pp. 227–249). https://doi.org/10.1007/978-3-319-33033-4

Eck, J., Schoel, C., & Greifeneder, R. (2017). Belonging to a majority reduces the immediate need threat from ostracism in individuals with a high need to belong. *European Journal of Social Psychology*, *47*(3), 273–288. https://doi.org/10.1002/ejsp.2233

Eidelman, S., Silvia, P. J., & Biernat, M. (2006). Responding to deviance: Target exclusion and differential devaluation. *Personality and Social Psychology Bulletin*, *32*(9), 1153–1164. https://doi.org/10.1177/0146167206288720

Eldesouky, L., & English, T. (2019). Regulating for a reason: Emotion regulation goals are linked to spontaneous strategy use. *Journal of Personality*, *87*(5), 948–961. https://doi.org/10.1111/jopy.12447

Elenbaas, L., & Killen, M. (2016). Research in Developmental Psychology: Social Exclusion Among Children and Adolescents. In P. Riva & J. Eck (Eds.), *Social Exclusion: Psychological Approaches to Understanding and Reducing Its Impact* (pp. 1–295). https://doi.org/10.1007/978-3-319-33033-4

English, T., Lee, I. A., John, O. P., & Gross, J. J. (2018). Emotion regulation strategy selection in daily life: The role of social context and goals. *Motivation and Emotion*, *41*(2), 230–242. https://doi.org/10.1007/s11031-016-9597-z. Emotion

Erdfelder, E., Faul, F., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Faul, F., Erfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191.

Feinberg, M., Willer, R., Stellar, J., & Keltner, D. (2012). The virtues of gossip: Reputational information sharing as prosocial behavior. *Journal of Personality and Social Psychology*, *102*(5), 1015–1030. https://doi.org/10.1037/a0026650

Feng, L., Li, J., Feng, T., & Jiang, W. (2019). Workplace ostracism and job performance: Meaning at work and family support as moderators. *Social Behavior and Personality*, *47*(11). https://doi.org/10.2224/sbp.8244

Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice*, *40*(5), 532–538. https://doi.org/10.1037/a0015808

Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The development and validation of the Workplace Ostracism Scale. *Journal of Applied Psychology*, *93*(6), 1348–1366. https://doi.org/10.1037/a0012743

Ferris, D. L., Chen, M., & Lim, S. (2017). Comparing and contrasting workplace ostracism and incivility. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*, 315–338. https://doi.org/10.1146/annurev-orgpsych-032516-113223

Ferris, D. L., Lian, H., Brown, D. J., & Morrison, R. (2015). Ostracism, self-esteem, and job performance: When do we self-verify and when do we self-enhance? *Academy of Management Journal*, *58*(1), 279–297.

Ferris, D. L., Yan, M., Lim, V. K. G., Chen, Y., & Fatimah, S. (2016). An approach–avoidance framework of workplace aggression. *Academy of Management Journal*, *59*(5), 1777–1800. https://doi.org/10.5465/amj.2014.0221

Fiedler, K., & Schwarz, N. (2016). Questionable Research Practices Revisited. *Social Psychological and Personality Science*, *7*(1), 45–52. https://doi.org/10.1177/1948550615612150

Finkenauer, C., & Rimé, B. (1998). Socially shared emotional experiences vs. Emotional experiences kept secret: Differential characteristics and consequences. *Journal of Social and Clinical Psychology*, *17*(3), 295–318. https://doi.org/10.1521/jscp.1998.17.3.295

Fiset, J., Hajj, R. Al, & Vongas, J. G. (2017). Workplace ostracism seen through the lens of power. *Frontiers in Psychology*, *8*(SEP). https://doi.org/10.3389/fpsyg.2017.01528

Gable, S. L., Gosnell, C. L., Maisel, N. C., & Strachman, A. (2012). Safely testing the alarm: Close others' responses to personal positive events. *Journal of Personality and Social Psychology*, *103*(6), 963–981. https://doi.org/10.1037/a0029488

Gable, S. L., & Reis, H. T. (2010). Good news! Capitalizing on positive events in an interpersonal context. In *Advances in Experimental Social Psychology* (Vol. 42, pp. 195–257). https://doi.org/10.1016/S0065-2601(10)42004-3

Gabry, J., Brilleman, S., Buros, J., Wood, Si., Team, R. C. D., & Bates, D. (2020). *Bayesian Applied Regression Modeling via Stan. Package "rstanarm."*

Gaertner, L., Iuzzini, J., & O'Mara, E. M. (2008). When rejection by one fosters aggression against many: Multiple-victim aggression as a consequence of social rejection and perceived groupness. *Journal of Experimental Social Psychology*, *44*(4), 958–970. https://doi.org/10.1016/j.jesp.2008.02.004

Geddes, D., & Lindebaum, D. (2020). Unpacking the 'why' behind strategic emotion expression at work: A narrative review and proposed taxonomy. *European Management Journal*, *38*(5), 708–722. https://doi.org/10.1016/j.emj.2020.02.006

Gerber, J. P., & Wheeler, L. (2014). Clarifying the relationship between ostracism and relational devaluation. *Journal of Social Psychology*, *154*(1), 14–27. https://doi.org/10.1080/00224545.2013.826619

Gerber, J., & Wheeler, L. (2009). On being rejected: A meta-analysis of experimental research on rejection. *Perspectives on Psychological Science*, *4*(5), 468–488. https://doi.org/10.1111/j.1745-6924.2009.01158.x

Gervais, S. J., Hillard, A. L., & Vescio, T. K. (2010). Confronting Sexism: The Role of Relationship Orientation and Gender. *Sex Roles*, *63*(7–8), 463–474. https://doi.org/10.1007/s11199-010-9838-7

Giesen, A., & Echterhoff, G. (2018). Do I really feel your pain? Comparing the effects of observed and personal ostracism. *Personality and Social Psychology Bulletin*, *44*(4), 550–561. https://doi.org/10.1177/0146167217744524

Gonsalkorale, K., & Williams, K. D. (2007). The KKK won't let me play: Ostracism even by a despised outgroup hurts. *European Journal of Social Psychology Eur.*, *37*, 1176–1186. https://doi.org/10.1002/ejsp.392

Goodacre, R., & Zadro, L. (2010). O-Cam: A new paradigm for investigating the effects of ostracism. *Behavior Research Methods*, *42*(3), 768–774. https://doi.org/10.3758/BRM.42.3.768

Goodwin, S. A., Williams, K. D., & Carter-Sowell, A. R. (2010). The psychological sting of stigma: The costs of attributing ostracism to racism. *Journal of Experimental Social Psychology*, *46*(4), 612–618. https://doi.org/10.1016/j.jesp.2010.02.002

Graham, S. M., Huang, J. Y., Clark, M. S., & Helgeson, V. S. (2008). The positives of negative emotions: Willingness to express negative emotions promotes relationships. *Personality and Social Psychology Bulletin*, *34*(3), 394–406. https://doi.org/10.1177/0146167207311281

Greene, K. (2009). An integrated model of health disclosure decision-making. In *Uncertainty, Information Management, and Disclosure Decisions: Theories and Applications* (pp. 226–253). Routledge. https://doi.org/10.4324/9780203933046-17

Greene, K., Magsamen-Conrad, K., Venetis, M. K., Checton, M. G., Bagdasarov, Z., & Banerjee, S. C. (2012). Assessing health diagnosis disclosure decisions in relationships: Testing the disclosure decision-making model. *Health Communication*, *27*(4), 356–368. https://doi.org/10.1080/10410236.2011.586988

Gruter, M., & Masters, R. D. (1986). Ostracism as a social and biological phenomenon: An introduction. *Ethology and Sociobiology*, *7*(3–4), 149–158. https://doi.org/10.1016/0162-3095(86)90043-9

Hales, A. H., McIntyre, M. M., Rudert, S. C., Williams, K. D., & Thomas, H. (2020). Ostracized and observed: The presence of an audience affects the experience of being excluded. *Self and Identity*, *00*(00), 1–22. https://doi.org/10.1080/15298868.2020.1807403

Hales, A. H., Ren, D., & Williams, K. D. (2016). Protect, Correct, and Eject: Ostracism as a Social Influence Tool. In S. G. Harkins, K. D. Williams, & J. Burger (Eds.), *The Oxford Handbook of Social Influence* (pp. 205–217). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199859870.013.26

Hales, A. H., & Williams, K. D. (2018). Marginalized indivudals and extremism: The role of ostracism in openness to extreme groups. *Journal of Social Issues*, *74*(1), 75–92. https://doi.org/10.1111/josi.12257

Hall, L., Jones, S., Paiva, A., & Aylett, R. (2009). FearNot! Providing children with strategies to cope with bullying. *Proceedings of IDC 2009 - The 8th International Conference on Interaction Design and Children*, 276–277. https://doi.org/10.1145/1551788.1551854

Halmesvaara, O., Harjunen, V. J., Aulbach, M. B., & Ravaja, N. (2020). How bodily expressions of emotion after norm violation influence perceivers' moral judgments and prevent social exclusion: A socio-functional approach to nonverbal shame display. *PLOS ONE*, *15*(4), e0232298. https://doi.org/10.1371/journal.pone.0232298

Haney, C. J., & Long, B. C. (1995). Coping effectiveness: A path analysis of self-efficacy, control, coping, and performance in sport competitions. *Journal of Applied Social Psychology*, *25*(19), 1726–1746. https://doi.org/10.1111/j.1559-1816.1995.tb01815.x

Hardwicke, T. E., Thibault, R. T., Kosie, J. E., Wallach, J. D., Kidwell, M. C., & Ioannidis, J. P. A. (2022). Estimating the prevalence of transparency and reproducibility-related research practices in psychology (2014–2017). *Perspectives on Psychological Science*, *17*(1), 13.

Harmon-Jones, C., Bastian, B., & Harmon-Jones, E. (2016). The Discrete Emotions Questionnaire: A new tool for measuring state self-reported emotions. *PLOS ONE*, *11*(8), e0159915. https://doi.org/10.1371/journal.pone.0159915

Harrist, A. W., & Bradley, K. D. (2003). "You can't say you can't play": Intervening in the process of social exclusion in the kindergarten classroom. *Early Childhood Research Quarterly*, *18*(2), 185–205. https://doi.org/10.1016/S0885-2006(03)00024-3

Hartgerink, C. H. J., Van Beest, I., Wicherts, J. M., & Williams, K. D. (2015). The ordinal effects of ostracism: A meta-analysis of 120 cyberball studies. *PLoS ONE*, *10*(5), 1–24. https://doi.org/10.1371/journal.pone.0127002

Hawes, D. J., Zadro, L., Fink, E., Richardson, R., O'Moore, K., Griffiths, B., Dadds, M. R., & Williams, K. D. (2012). The effects of peer ostracism on children's cognitive processes. *European Journal of Developmental Psychology*, *9*(5), 599–613. https://doi.org/10.1080/17405629.2011.638815

Hayes, J. G., & Metts, S. (2008). Managing the expression of emotion. *Western Journal of Communication*, *72*(4), 374–396. https://doi.org/10.1080/10570310802446031

He, Y., Zimmerman, C. A., Carter-Sowell, A. R., & Payne, S. C. (2020). It's the reoccurring thoughts that matter: Rumination over workplace ostracism. *Occupational Health Science*. https://doi.org/10.1007/s41542-020-00076-z

Healey, M., & Jenkins, A. (2000). Kolb's experiential learning theory and its application in geography in higher education. *Journal of Geography*, *99*(5), 185–195. https://doi.org/10.1080/00221340008978967

Heath, M., Williams, E. N., & Wynn, D. (2021). Experiential learning activity to ameliorate workplace bullying. *Journal of Education for Business*, *0*(0), 1–15. https://doi.org/10.1080/08832323.2020.1858016

Heerdink, M. W., van Kleef, G. A., Homan, A. C., & Fischer, A. H. (2015). Emotional reactions to deviance in groups: The relation between number of angry reactions, felt rejection, and conformity. *Frontiers in Psychology*, *6*(JUN), 1–12. https://doi.org/10.3389/fpsyg.2015.00830

Henle, C. A., Shore, L. M., Morton, J. W., & Conroy, S. A. (2022). Putting a spotlight on the ostracizer: Intentional workplace ostracism motives. *Group & Organization Management*, 105960112210928. https://doi.org/10.1177/10596011221092863

Henrich, J., Heine, S. J., & Norenzayan, A. (2010a). Most people are not WEIRD. *Nature*, *466*(7302), 29. https://doi.org/10.1017/S0140525X0999152X

Henrich, J., Heine, S. J., & Norenzayan, A. (2010b). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*(2–3), 61–83. https://doi.org/10.1017/S0140525X0999152X

Herman, K. C., Hickmon-Rosa, J., & Reinke, W. M. (2018). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions*, *20*(2), 90–100. https://doi.org/10.1177/1098300717732066

Hershcovis, M. S. (2011). "Incivility, social undermining, bullying…oh my!": A call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior*, *32*(3), 499–519. https://doi.org/10.1002/job.689

Hershcovis, M. S., Cameron, A. F., Gervais, L., & Bozeman, J. (2018). The effects of confrontation and avoidance coping in response to workplace incivility. *Journal of Occupational Health Psychology*, *23*(2), 163–174. https://doi.org/10.1037/ocp0000078

Hershcovis, M. S., & Reich, T. C. (2013). Integrating workplace aggression research: Relational, contextual, and method considerations. *Journal of Organizational Behavior*, *34*(S1), S26–S42. https://doi.org/10.1002/job.1886

Hobfoll, S. E., Dunahoo, C. L., Ben-Porath, Y., & Monnier, J. (1994). Gender and coping: The dual-axis model of coping. *American Journal of Community Psychology*, *22*(1), 49–82. https://doi.org/10.1007/BF02506817

Hoglund, W. L. G., Lalonde, C. E., & Leadbeater, B. J. (2008). Social-cognitive competence, peer rejection and neglect, and behavioral and emotional problems in middle childhood. *Social Development*, *17*(3), 528–553. https://doi.org/10.1111/j.1467-9507.2007.00449.x

Holt-Lunstad, J., Smith, T. B. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, *7*(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, *10*(2), 227–237. https://doi.org/10.1177/1745691614568352

Howard, M. C., Cogswell, J. E., & Smith, M. B. (2020). The antecedents and outcomes of workplace ostracism: A meta-analysis. *The Journal of Applied Psychology*, *105*(6), 577–596. https://doi.org/10.1037/apl0000453

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

IJzerman, H., Ropovik, I., Gallucci, M., Häfner, M., & Lindenberg, S. (2018). *Soothing Sadness: When Sharing Emotions Helps*. *September*. https://doi.org/10.31234/osf.io/dtevx

John, L. K., Loewenstein, G., & Prelec, D. (2012). Measuring the Prevalence of Questionable Research Practices With Incentives for Truth Telling. *Psychological Science*, *23*(5), 524–532. https://doi.org/10.1177/0956797611430953

Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition and Emotion*, *13*(5), 505–521. https://doi.org/10.1080/026999399379168

Killen, M., & Stangor, C. (2001). Children's social reasoning about inclusion and exclusion in gender and race peer group contexts. *Child Development*, *72*(1), 174–186. https://doi.org/10.1111/1467-8624.00272

Kim, S., Liu, P. J., & Min, K. E. (2020). Reminder avoidance: Why people hesitate to disclose their insecurities to friends. *Journal of Personality and Social Psychology*, *July*. https://doi.org/10.1037/pspi0000330

Knapton, H. M., Bäck, H., & Bäck, E. A. (2015). The social activist: Conformity to the ingroup following rejection as a predictor of political participation. *Social Influence*, *10*(2), 97–108. https://doi.org/10.1080/15534510.2014.966856

Knowles, M. L., & Gardner, W. L. (2008). Benefits of membership: The activation and amplification of group identities in response to social rejection. *Personality and Social Psychology Bulletin*, *34*(9), 1200–1213. https://doi.org/10.1177/0146167208320062

Kolb, D. A. (2014a). *Experiential Learning: Experience as the Source of Learning and Development*. FT Press.

Kolb, D. A. (2014b). The Process of Experiential Learning. In *Experiential Learning: Experience as the Source of Learning and Development* (pp. 32–63). FT Press. https://doi.org/10.4324/9780080517889-24

Konak, A., Clark, T. K., & Nasereddin, M. (2014). Using Kolb's Experiential Learning Cycle to improve student learning in virtual computer laboratories. *Computers and Education*, *72*, 11–22. https://doi.org/10.1016/j.compedu.2013.10.013

Kouchaki, M., & Wareham, J. (2015). Excluded and behaving unethically: Social exclusion, physiological responses, and unethical behavior. *Journal of Applied Psychology*, *100*(2), 547–556. https://doi.org/10.1037/a0038034

Kozlowski, S. W. J. (2015). Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations. *Organizational Psychology Review*, *5*(4), 270–299. https://doi.org/10.1177/2041386614533586

Kozlowski, S. W. J., & Chao, G. T. (2018). Unpacking team process dynamics and emergent phenomena: Challenges, conceptual advances, and innovative methods. *American Psychologist*, *73*(4), 576–592. https://doi.org/10.1037/amp0000245

Kruschke, J. K. (2018). Rejecting or Accepting Parameter Values in Bayesian Estimation. *Advances in Methods and Practices in Psychological Science*, *1*(2), 270–280. https://doi.org/10.1177%2F2515245918771304

Kurzban, R., & Leary, M. R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin*, *127*(2), 187–208. https://doi.org/10.1037/0033-2909.127.2.187

Ladd, G. W. (2006). *Peer rejection, aggressive or withdrawn behavior, and psychological maladjustment from ages 5 to 12: An examination of four predictive models*. *77*(4), 822–846.

Lai, C. H., Yang, J. C., Chen, F. C., Ho, C. W., & Chan, T. W. (2007). Affordances of mobile technologies for experiential learning: The interplay of technology and pedagogical practices. *Journal of Computer Assisted Learning*, *23*(4), 326–337. https://doi.org/10.1111/j.1365-2729.2007.00237.x

Lakens, D., & Caldwell, A. R. (2021). Simulation-Based Power Analysis for Factorial Analysis of Variance Designs. *Advances in Methods and Practices in Psychological Science*, *4*(1), 251524592095150. https://doi.org/10.1177/2515245920951503

Lakin, J. L., Lakin, J. L., Chartrand, T. L., Chartrand, T. L., Arkin, R. M., & Arkin, R. M. (2008). I Am Too Just Like: Younonconscious mimicry as an automatic behavioral response to social exclusion. *Psychological Science*, *19*(8), 816–822. https://doi.org/10.1111/j.1467-9280.2008.02162.x

Larsen, J. K., & English, T. (2014). The importance of authentic emotion regulation. *ISSBDBulletin*, *1*(65), 2–5.

Laurin, K., Schumann, K., & Holmes, J. G. (2014). A relationship with God? Connecting with the divine to assuage fears of interpersonal rejection. *Social Psychological and Personality Science*, *5*(7), 777–785. https://doi.org/10.1177/1948550614531800

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springing Publishing Company, Inc.

Leary, M. R. (2001). Toward a conceptualization of interpersonal rejection. *Interpersonal Rejection*, *2001*, 3–20. https://doi.org/OSU_book_copies

Leary, M. R. (2005). Sociometer theory and the pursuit of relational value: Getting to the root of self-esteem. *European Review of Social Psychology*, *16*(1), 75–111. https://doi.org/10.1080/10463280540000007

Leary, M. R. (2015). Emotional responses to interpersonal rejection. *Dialogues in Clinical Neuroscience*, *17*(4), 435–441. https://doi.org/10.1093/acprof:oso/9780195130157.003.0006

Leary, M. R., & Baumeister, R. F. (2000). *The nature and function of self-esteem: Sociometer theory*. *32*, 1–62. https://doi.org/10.1016/S0065-2601(00)80003-9

Leary, M. R., Springer, C., Negel, L., Ansell, E., & Evans, K. (1998). The causes, phenomenology, and consequences of hurt feelings. *Journal of Personality and Social Psychology*, *74*(5), 1225–1237. https://doi.org/10.1037//0022-3514.74.5.1225

Lee, C.-C., & Chiou, W.-B. (2013). Keep Logging In! Experimental Evidence Showing the Relation of Affiliation Needs to the Idea of Online Social Networking. *Cyberpsychology, Behavior, and Social Networking*, *16*(6), 419–422. https://doi.org/10.1089/cyber.2012.0544

Lee, J., & Shrum, L. J. (2012). Conspicuous Consumption versus Charitable Behavior in Response to Social Exclusion: A Differential Needs Explanation. *530 2012 by JOURNAL OF CONSUMER RESEARCH, Inc.* •, *39*. https://doi.org/10.1086/664039

Leff, S. S., Waasdorp, T. E., & Crick, N. R. (2010). A review of existing relational aggression programs: Strengths, limitations, and future directions. *School Psychology Review*, *39*(4), 508–535. https://doi.org/10.1080/02796015.2010.12087739

Leggette, H. (2012). Experiential Learning Using Second Life®: A Content Analysis of Student Reflective Writing. *Journal of Agricultural Education*, *53*(3), 124–136. https://doi.org/10.5032/jae.2012.03124

Lelieveld, G. J., van Dijk, E., van Beest, I., & van Kleef, G. A. (2012). Why Anger and Disappointment Affect Other's Bargaining Behavior Differently: The Moderating Role of Power and the Mediating Role of Reciprocal and Complementary Emotions. *Personality and Social Psychology Bulletin*, *38*(9), 1209–1221. https://doi.org/10.1177/0146167212446938

Lemay, E. P., Overall, N. C., & Clark, M. S. (2012). Experiences and interpersonal consequences of hurt feelings and anger. *Journal of Personality and Social Psychology*, *103*(6), 982–1006. https://doi.org/10.1037/a0030064

Levine, L. J., Schmidt, S., Kang, H. S., & Tinti, C. (2012). Remembering the silver lining: Reappraisal and positive bias in memory for emotion. *Cognition and Emotion*, *26*(5), 871–884. https://doi.org/10.1080/02699931.2011.625403

Lev-Wiesel, R., First, M., Gottfried, R., & Eisikovits, Z. (2019). Reluctance versus urge to disclose child maltreatment: The impact of multi-type maltreatment. *Journal of Interpersonal Violence*, *34*(18), 3888–3914. https://doi.org/10.1177/0886260516672938

Lev-Wiesel, R., Nuttman-Shwartz, O., & Sternberg, R. (2006). Peer rejection during adolescence: Psychological long-term effects—A brief report. *Journal of Loss and Trauma*, *11*(2), 131–142. https://doi.org/10.1080/15325020500409200

Lewis, L. H., & Williams, C. J. (1994). Experiential learning: Past and present. *New Directions for Adult and Continuing Education*, *1994*(62), 5–16. https://doi.org/10.1002/ace.36719946203

Liu, C. (2019). Ostracism, attributions, and their relationships with international students' and employees' outcomes: The moderating effect of perceived harming Intent. *Journal of Occupational Health Psychology*, *24*(5), 556–571. https://doi.org/10.1037/ocp0000130

Liu, C., & Ma, J. (2021). *Workplace Ostracism Its Nature , Antecedents , and Consequences*. Palgrave Macmillan.

London, B., Downey, G., Romero-Canyas, R., Rattan, A., & Tyson, D. (2012a). Gender-based rejection sensitivity and academic self-silencing in women. *Journal of Personality and Social Psychology*, *102*(5), 961–979. https://doi.org/10.1037/a0026615

London, B., Downey, G., Romero-Canyas, R., Rattan, A., & Tyson, D. (2012b). Gender-based rejection sensitivity and academic self-silencing in women. *Journal of Personality and Social Psychology*, *102*(5), 961–979. https://doi.org/10.1037/a0026615

Long, J. A. (2020). *Analysis and Presentation of Social Scientific Data [R package jtools version 2.1.1]*. Comprehensive R Archive Network (CRAN).

Lopez, C., & DuBois, D. L. (2005). Peer victimization and rejection: Investigation of an integrative model of effects on emotional, behavioral, and academic adjustment in early adolescence. *Journal of Clinical Child and Adolescent Psychology*, *34*(1), 25–36. https://doi.org/10.1207/s15374424jccp3401_3

Mahmoud, A., & Nagy, Z. K. (2009). Applying Kolb's Experiential Learning Cycle for Laboratory Education. *Journal of Engineering Education*, *98*(3), 283–294. https://doi.org/10.1002/j.2168-9830.2009.tb01025.x

Makowski, D., Ben-Shachar, M., & Lüdecke, D. (2019a). BayestestR: Describing effects and their uncertainty, existence and significance within the bayesian framework. *Journal of Open Source Software*, *4*(40), 1541. https://doi.org/10.21105/joss.01541

Makowski, D., Ben-Shachar, M., & Lüdecke, D. (2019b). BayestestR: Describing Effects and their Uncertainty, Existence and Significance within the Bayesian Framework. *Journal of Open Source Software*, *4*(40), 1541. https://doi.org/10.21105/joss.01541

Maner, J. K., DeWall, C. N., Baumeister, R. F., & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the "porcupine problem". *Journal of Personality and Social Psychology*, *92*(1), 42–55. https://doi.org/10.1037/0022-3514.92.1.42

Manne, S., Rini, C., Goldstein, L., Ostroff, J., Fox, K., & Grana, G. (2004). The interpersonal process model of intimacy: The role of self-disclosure, partner disclosure, and partner responsiveness in interactions between breast cancer patients and their partners. *Journal of Family Psychology*, *18*(4), 589–599. https://doi.org/10.1037/0893-3200.18.4.589

Marchiondo, L. A., Cortina, L. M., & Kabat-Farr, D. (2018). Attributions and appraisals of workplace incivility: Finding light on the dark side? *Applied Psychology*, *67*(3), 369–400. https://doi.org/10.1111/apps.12127

Marinucci, M., & Riva, P. (2020). How intergroup social connections shape immigrants' responses to social exclusion. *Group Processes and Intergroup Relations*. https://doi.org/10.1177/1368430219894620

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research*, *45*(6), 633–644. https://doi.org/10.1509/jmkr.45.6.633

McDougall, P., Hymel, S., Vaillancourt, T., & Mercer, L. (2001). The consequences of childhood peer rejection. In M. R. Leary (Ed.), *Interpersonal Rejection* (pp. 213–247). Oxford University Press.

McLain, D. L., Kefallonitis, E., & Armani, K. (2015). Ambiguity tolerance in organizations: Definitional clarification and perspectives on future research. *Frontiers in Psychology*, *6*(MAR), 1–7. https://doi.org/10.3389/fpsyg.2015.00344

Mead, N. L., Baumeister, R. F., Stillman, T. F., Rawn, C. D., & Vohs, K. D. (2011). Social exclusion causes people to spend and consume strategically in the service of affiliation. *Journal of Consumer Research*, *37*(5), 902–919. https://doi.org/10.1086/656667

Mendoza-Denton, R., Downey, G., Purdie, V. J., Davis, A., & Pietrzak, J. (2002). Sensitivity to status-based rejection: Implications for African American students' college experience. *Journal of Personality and Social Psychology*, *83*(4), 896–918. https://doi.org/10.1037/0022-3514.83.4.896

Meral, E. O., van Beest, I., & Karaduman, C. (2022). *Raising awareness about social exclusion in schools through experiential learning* [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/4me2t

Meral, E. O., van Osch, Y., Ren, D., van Dijk, E., & van Beest, I. (2021). The anticipated social cost of disclosing a rejection experience. *European Journal of Social Psychology*, *51*(7), 1181–1197. https://doi.org/10.1002/ejsp.2807

Moorhouse, N., tom Dieck, M. C., & Jung, T. (2019). An experiential view to children learning in museums with Augmented Reality. *Museum Management and Curatorship*, *34*(4), 402–418. https://doi.org/10.1080/09647775.2019.1578991

Morris, M. W., & Keltner, D. (2000). How emotions work: The social functions of emotional expression in negotiations. In *Research in Organizational Behavior* (Vol. 22, Issue c). Elsevier Masson SAS. https://doi.org/10.1016/s0191-3085(00)22002-9

Mueller, J., Orth, U., Wang, J., & Maercker, A. (2009). Disclosure attitudes and social acknowledgement as predictors of posttraumatic stress disorder symptom severity in Chinese and German crime victims. *The Canadian Journal of Psychiatry*, *54*(8), 547–556. https://doi.org/10.1177/070674370905400807

Mulvey, K. L., Palmer, S. B., & Abrams, D. (2016). Race-based humor and peer group dynamics in adolescence: Bystander intervention and social exclusion. *Child Development*, *87*(5), 1379–1391. https://doi.org/10.1111/cdev.12600

Munafò, M. R., Nosek, B. A., M Bishop, D. V., Button, K. S., Chambers, C. D., Percie du Sert, N., Simonsohn, U., Wagenmakers, E.-J., Ware, J. J., & A Ioannidis, J. P. (2017). A manifesto for reproducible science. *Nature Publishing Group*, *1*. https://doi.org/10.1038/s41562-016-0021

Murphy, P. R., Wynes, M., Hahn, T., & Devine, P. G. (2020). Why are people honest? Internal and external motivations to report honestly. *Contemporary Accounting Research*, *37*(2), 945–981. https://doi.org/10.1111/1911-3846.12543

Murray, S. L., Rose, P., Bellavia, G. M., Holmes, J. G., & Kusche, A. G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology*, *83*(3), 556–573. https://doi.org/10.1037/0022-3514.83.3.556

Nagai, S. (2015). Predictors of help-seeking behavior: Distinction between help-seeking intentions and help-seeking behavior. *Japanese Psychological Research*, *57*(4), 313–322. https://doi.org/10.1111/jpr.12091

Nezlek, J. B., Wesselmann, E. D., Wheeler, L., & Williams, K. D. (2012). Ostracism in everyday life. *Group Dynamics: Theory, Research, and Practice*, *16*(2), 91–104. https://doi.org/10.1037/a0028029

Nichols, A. L., & Webster, G. D. (2013). The single-item need to belong scale. *Personality and Individual Differences*, *55*(2), 189–192. https://doi.org/10.1016/j.paid.2013.02.018

Nils, F., & Rimé, B. (2012). Beyond the myth of venting: Social sharing modes determine the benefits of emotional disclosure. *European Journal of Social Psychology*, *42*(6), 672–681. https://doi.org/10.1002/ejsp.1880

Nixon, A. E., Arvan, M., & Spector, P. E. (2021). Will the real mistreatment please stand up? Examining the assumptions and measurement of bullying and incivility. *Work and Stress*, *0*(0), 1–25. https://doi.org/10.1080/02678373.2021.1891584

Nixon, A. E., & Spector, P. E. (2015). Seeking clarity in a linguistic fog: Moderators of the workplace aggression-strain relationship. *Human Performance*, *28*(2), 137–164. https://doi.org/10.1080/08959285.2015.1006325

Nordgren, L. F., Banas, K., & MacDonald, G. (2011). Empathy gaps for social Pain: Why people underestimate the pain of social suffering. *Journal of Personality and Social Psychology*, *100*(1), 120–128. https://doi.org/10.1037/a0020938

Nosek, B. A., Ebersole, C. R., DeHaven, A. C., & Mellor, D. T. (2018). The preregistration revolution. *Proceedings of the National Academy of Sciences*, *115*(11), 2600–2606. https://doi.org/10.1073/pnas.1708274114

Ólafsson, R. F., & Jóhannsdóttir, H. L. (2004). Coping with bullying in the workplace: The effect of gender, age and type of bullying. *British Journal of Guidance and Counselling*, *32*(3), 319–333. https://doi.org/10.1080/03069880410001723549

Omarzu, J. (2000). A disclosure decision model: Determining how and shen individuals will self-disclose. *Personality and Social Psychology Review*, *4*(2), 174–185.

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, *349*(6251), aac4716–aac4716. https://doi.org/10.1126/science.aac4716

Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, *45*(4), 867–872. https://doi.org/10.1016/j.jesp.2009.03.009

O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. (2014). Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science*, *26*(3), 774–793. https://doi.org/10.1287/orsc.2014.0900

Over, H., & Uskul, A. K. (2016). Culture moderates children's responses to ostracism situations. *Journal of Personality and Social Psychology*, *110*(5), 710–724. https://doi.org/10.1037/pspi0000050

Overall, N. C., Girme, Y. U., Lemay, E. P., & Hammond, M. D. (2014). Attachment anxiety and reactions to relationship threat: The benefits and costs of inducing guilt in romantic partners. *Journal of Personality and Social Psychology*, *106*(2), 235–256. https://doi.org/10.1037/a0034371

Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the Rejection Sensitivity Construct to the Interpersonal Functioning of Gay Men. *Journal of Consulting and Clinical Psychology*, *76*(2), 306–317. https://doi.org/10.1037/0022-006X.76.2.306

Parker, J. G., & Asher, S. R. (1987). Peer Relations and Later Personal Adjustment: Are Low-Accepted Children At Risk? *Psychological Bulletin*, *102*(3), 357–389. https://doi.org/10.1037/0033-2909.102.3.357

Pasupathi, M., McLean, K. C., & Weeks, T. (2009). To tell or not to tell: Disclosure and the narrative self. *Journal of Personality*, *77*(1), 89–124. https://doi.org/10.1111/j.1467-6494.2008.00539.x

Pauw, L. S., Sauter, D. A., van Kleef, G. A., & Fischer, A. H. (2018). Sense or sensibility? Social sharers' evaluations of socio-affective vs. Cognitive support in response to negative emotions. *Cognition and Emotion*, *32*(6), 1247–1264. https://doi.org/10.1080/02699931.2017.1400949

Pauw, L. S., Sauter, D. A., van Kleef, G. A., & Fischer, A. H. (2019). I hear you (not): Sharers' expressions and listeners' inferences of the need for support in response to negative emotions. *Cognition and Emotion*, *33*(6), 1129–1143. https://doi.org/10.1080/02699931.2018.1536036

Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, *70*, 153–163. https://doi.org/10.1016/j.jesp.2017.01.006

Peeters, M. J. (2016). Practical significance: Moving beyond statistical significance. *Currents in Pharmacy Teaching and Learning*, *8*(1), 83–89. https://doi.org/10.1016/j.cptl.2015.09.001

Petsnik, C., & Vorauer, J. D. (2020). Do dominant group members have different emotional responses to observing dominant-on-dominant versus dominant-on-disadvantaged ostracism? Some evidence for heightened reactivity to potentially discriminatory ingroup behavior. *PLoS ONE*, *15*(6 June), 1–29. https://doi.org/10.1371/journal.pone.0234540

Pfundmair, M., Aydin, N., Du, H., Yeung, S., Frey, D., & Graupmann, V. (2015). Exclude me if you can: Cultural effects on the outcomes of social exclusion. *Journal of Cross-Cultural Psychology*, *46*(4), 579–596. https://doi.org/10.1177/0022022115571203

Pharo, H., Gross, J., Richardson, R., & Hayne, H. (2011). Age-related changes in the effect of ostracism. *Social Influence*, *6*(1), 22–38. https://doi.org/10.1080/15534510.2010.525852

Pickett, C. L., Gardner, W. L., & Knowles, M. (2004). Getting a cue: The need to belong and enhanced sensitivity to social cues. *Personality and Social Psychology Bulletin*, *30*(9), 1095–1107. https://doi.org/10.1177/0146167203262085

Platt, B., Kadosh, K. C., & Lau, J. Y. F. (2013). The role of peer rejection in adolescent depression. *Depression and Anxiety*, *30*(9), 809–821. https://doi.org/10.1002/da.22120

Poon, K. T., & Chen, Z. (2016). Assuring a sense of growth: A cognitive strategy to weaken the effect of cyber-ostracism on aggression. *Computers in Human Behavior*, *57*, 31–37. https://doi.org/10.1016/j.chb.2015.12.032

Prinstein, M. J., & Aikins, J. W. (2004). Cognitive moderators of the longitudinal association between peer rejection and adolescent depressive symptoms. *Journal of Abnormal Child Psychology*, *32*(2), 147–158.

Qi, L., Cai, D., Liu, B., & Feng, T. (2020). Effect of workplace ostracism on emotional exhaustion and unethical behaviour among Chinese nurses: A time-lagged three-wave survey. *Journal of Advanced Nursing*, jan.14405. https://doi.org/10.1111/jan.14405

Qualter, P., Brown, S. L., Munn, P., & Rotenberg, K. J. (2010). Childhood loneliness as a predictor of adolescent depressive symptoms: An 8-year longitudinal study. *European Child and Adolescent Psychiatry*, *19*(6), 493–501. https://doi.org/10.1007/s00787-009-0059-y

Rajchert, J., Konopka, K., & Huesmann, L. R. (2017). It is more than thought that counts: The role of readiness for aggression in the telationship between ostracism and displaced aggression. *Current Psychology*, *36*(3), 417–427. https://doi.org/10.1007/s12144-016-9430-6

Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, *41*(1), 203–212. https://doi.org/10.1016/j.jrp.2006.02.001

Reijntjes, A., Stegge, H., & Meerum Terwogt, M. (2006). Children's coping with peer rejection: The role of depressive symptoms, social competence, and gender. *Infant and Child Development*, *15*(1), 89–107. https://doi.org/10.1002/icd.435

Reijntjes, A., Thomaes, S., Kamphuis, J. H., Bushman, B. J., de Castro, B. O., & Telch, M. J. (2011). Explaining the paradoxical rejection-aggression link: The mediating effects of hostile intent attributions, anger, and decreases in state self-esteem on peer rejection-induced aggression in youth. *Personality and Social Psychology Bulletin*, *37*(7), 955–963. https://doi.org/10.1177/0146167211410247

Reiter-Scheidl, K., Papousek, I., Lackner, H. K., Paechter, M., Weiss, E. M., & Aydin, N. (2018). Aggressive behavior after social exclusion is linked with the spontaneous initiation of more action-oriented coping immediately following the exclusion episode. *Physiology and Behavior*, *195*(June), 142–150. https://doi.org/10.1016/j.physbeh.2018.08.001

Ren, D., & Evans, A. M. (2020). Leaving the loners alone: Dispositional preference for solitude evokes ostracism. *Personality and Social Psychology Bulletin*. https://doi.org/10.1177/0146167220968612

Ren, D., Wesselmann, E. D., Loh, W. W., Van Beest, I., van Leeuwen, F., & Sleegers, W. W. A. (2022). *Do cues of infectious disease shape people's affective responses to social exclusion?* (10.31234/osf.io/89jzf). PsyArxiv. https://doi.org/10.31234/osf.io/89jzf

Ren, D., Wesselmann, E. D., & van Beest, I. (2020). Seeking Solitude After Being Ostracized: A Replication and Beyond. *Personality and Social Psychology Bulletin*, 014616722092823. https://doi.org/10.1177/0146167220928238

Ren, D., Wesselmann, E. D., & Williams, K. D. (2013). Interdependent self-construal moderates coping with (but not the initial pain of) ostracism. *Asian Journal of Social Psychology*, *16*(4), 320–326. https://doi.org/10.1111/ajsp.12037

Ren, D., Wesselmann, E. D., & Williams, K. D. (2018). Hurt people hurt people: Ostracism and aggression. *Current Opinion in Psychology*, *19*, 34–38. https://doi.org/10.1016/j.copsyc.2017.03.026

Ren, D., Wesselmann, E., & Williams, K. D. (2016). Evidence for another response to ostracism: Solitude seeking. *Social Psychological and Personality Science*, *7*(3), 204–212. https://doi.org/10.1177/1948550615616169

Revelle, W. (2021). *psych: Procedures for Psychological, Psychometric, and Personality Research* (2.1.9) [R]. https://CRAN.R-project.org/package=psych.

Riediger, M., Schmiedek, F., Wagner, G. G., & Lindenberger, U. (2009). Seeking pleasure and seeking pain: Differences in prohedonic and contra-hedonic motivation from adolescence to old age. *Psychological Science*, *20*(12), 1529–1535. https://doi.org/10.1111/j.1467-9280.2009.02473.x

Rimé, B. (2009). Emotion elicits the social sharing of emotion: Theory and empirical review. *Emotion Review*, *1*(1), 60–85. https://doi.org/10.1177/1754073908097189

Rimé, B., Bouchat, P., Paquot, L., & Giglio, L. (2020). Intrapersonal, interpersonal, and social outcomes of the social sharing of emotion. *Current Opinion in Psychology*, *31*, 127–134. https://doi.org/10.1016/j.copsyc.2019.08.024

Rimé, B., Finkenauer, C., Luminet, O., Zech, E., Philippot, P., & Rimc, B. (1998). Social sharing of emotion: New evidence and new questions. *European Review of Social Psychology*, *9*(1), 145–189. https://doi.org/10.1080/14792779843000072

Rime, B., Mesquita, B., Philippot, P., & Boca, S. (1991). Beyond the emotional event: Six studies on the social sharing of emotion. *Cognition and Emotion*, *5*(5–6), 435–465. https://doi.org/10.1080/02699939108411052

Rime, B., Phillippot, P., Boca, S., Mesquita, B., Rimé, B., Philippot, P., Boca, S., & Mesquita, B. (1992). Long-lasting cognitive and social consequences of emotion: Social sharing and rumination. *European Review of Social Psychology*, *3*(1), 225–258. https://doi.org/10.1080/14792779243000078

Riva, P., Brambilla, M., & Vaes, J. (2016). Bad guys suffer less (social pain): Moral status influences judgements of others' social suffering. *British Journal of Social Psychology*, *55*(1), 88–108. https://doi.org/10.1111/bjso.12114

Riva, P., & Eck, J. (2016). *Social Exclusion: Psychological Approaches to Understanding and Reducing Its Impact* (P. Riva & J. Eck, Eds.). Springer International Publishing. https://doi.org/10.1007/978-3-319-33033-4

Riva, P., Montali, L., Wirth, J. H., Curioni, S., & Williams, K. D. (2017). Chronic social exclusion and evidence for the resignation stage. *Journal of Social and Personal Relationships*, *34*(4), 541–564. https://doi.org/10.1177/0265407516644348

Riva, P., Wesselmann, E. D., Wirth, J. H., Carter-Sowell, A. R., & Williams, K. D. (2014). When pain does not heal: The common antecedents and consequences of chronic social and physical pain. *Basic and Applied Social Psychology*, *36*(4), 329–346. https://doi.org/10.1080/01973533.2014.917975

Riva, P., Williams, K. D., Torstrick, A. M., & Montali, L. (2014). Orders to Shoot (a Camera): Effects of Ostracism on Obedience. *The Journal of Social Psychology*, *154*(3), 208–216. https://doi.org/10.1080/00224545.2014.883354

Robertson, T. E., Sznycer, D., Delton, A. W., Tooby, J., & Cosmides, L. (2018). The true trigger of shame: Social devaluation is sufficient, wrongdoing is unnecessary. *Evolution and Human Behavior*, *39*(5), 566–573. https://doi.org/10.1016/j.evolhumbehav.2018.05.010

Robinson, S. L., O'Reilly, J., & Wang, W. (2013). Invisible at work: An integrated model of workplace ostracism. *Journal of Management*, *39*(1), 203–231. https://doi.org/10.1177/0149206312466141

Robinson, S. L., & Schabram, K. (2017). Invisible at Work: Workplace Ostracism as Aggression. In *Research and Theory on Workplace Aggression* (pp. 221–244). https://doi.org/10.1017/9781316160930.010

Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal Of Statistical Software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist*, *41*(7), 813–819. https://doi.org/10.1037/0003-066X.41.7.813

Rudert, S. C., & Greifeneder, R. (2019). Observing ostracism: How observers interpret and respond to ostracism situations. In *Current Directions in Ostracism, Social Exclusion, and Rejection Research* (Issue June, pp. 136–154). Routledge. https://doi.org/10.4324/9781351255912-9

Rudert, S. C., Greifeneder, R., & Williams, K. D. (2019). *Current Directions in Ostracism, Social Exclusion, and Rejection Research* (S. Rudert, R. Greifeneder, & K. Williams, Eds.; 1st ed.). Routledge. https://doi.org/10.4324/9781351255912

Rudert, S. C., Hales, A. H., Greifeneder, R., & Williams, K. D. (2017). When silence is not golden: Why acknowledgment matters even when being excluded. *Personality and Social Psychology Bulletin*, *43*(5), 678–692. https://doi.org/10.1177/0146167217695554

Rudert, S. C., Janke, S., & Greifeneder, R. (2020). The experience of ostracism over the adult life span. *Developmental Psychology*, *56*(10), 1999–2012. https://doi.org/10.1037/dev0001096

Rudert, S. C., Janke, S., & Greifeneder, R. (2021). Ostracism breeds depression: Longitudinal associations between ostracism and depression over a three-year-period. *Journal of Affective Disorders Reports*, *4*(February), 100118. https://doi.org/10.1016/j.jadr.2021.100118

Rudert, S. C., Ruf, S., & Greifeneder, R. (2020). Whom to punish? How observers sanction norm-violating behavior in ostracism situations. *European Journal of Social Psychology*, *50*(2), 376–391. https://doi.org/10.1002/ejsp.2606

Rudert, S. C., Sutter, D., Corrodi, V. C., & Greifeneder, R. (2018). Who's to blame? Dissimilarity as a cue in moral judgments of observed ostracism episodes. *Journal of Personality and Social Psychology*, *115*(1), 31–53. https://doi.org/10.1037/pspa0000122

Ruff, J. R., Williams, K. D., Lueckmann, J.-M., Levordashka, A., Wolf, W., & Kraaijeveld, S. (2014). Ostracism Online: A social media ostracism paradigm. *Behavior Research Methods*, *47*(2), 361–373. https://doi.org/10.3758/s13428-014-0475-x

Sacco, D. F., Bernstein, M. J., Young, S. G., & Hugenberg, K. (2014). Reactions to social inclusion and ostracism as a function of perceived in-group similarity. *Group Dynamics*, *18*(2), 129–137. https://doi.org/10.1037/gdn0000002

Sanford, K., & Rowatt, W. C. (2004). When is negative emotion positive for relationships? An investigation of married couples and roommates. *Personal Relationships*, *11*(3), 329–354. https://doi.org/10.1111/j.1475-6811.2004.00086.x

Sasse, J., Spears, R., & Gordijn, E. H. (2018). When to reveal what you feel: How emotions towards antagonistic out-group and third party audiences are expressed strategically. *PLoS ONE*, *13*(9), 1–23. https://doi.org/10.1371/journal.pone.0202163

Schaubroeck, J., Lam, S. S. K., & Xie, J. L. (2000). Collective efficacy versus self-efficacy in coping responses to stressors and control: A cross-cultural study. *Journal of Applied Psychology*, *85*(4), 512–525. https://doi.org/10.1037/0021-9010.85.4.512

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. *Anesthesia & Analgesia*, *126*(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

Scott, K. L., & Duffy, M. K. (2015). Antecedents of workplace ostracism: New directions in research and intervention. *Research in Occupational Stress and Well Being*, *13*, 137–165. https://doi.org/10.1108/S1479-355520150000013005

Sethi, N., Moulds, M. L., & Richardson, R. (2013). The role of focus of attention and reappraisal in prolonging the negative effects of ostracism. *Group Dynamics*, *17*(2), 110–123. https://doi.org/10.1037/a0032436

Sinaceur, M., Kopelman, S., Vasiljevic, D., & Haag, C. (2015). Weep and get more: When and why sadness expression is effective in negotiations. *Journal of Applied Psychology*, *100*(6), 1847–1871. https://doi.org/10.1037/a0038783

Sleegers, W. W. A., Proulx, T., & van Beest, I. (2016). The social pain of Cyberball: Decreased pupillary reactivity to exclusion cues. *Journal of Experimental Social Psychology*, *69*, 187–200. https://doi.org/10.1016/j.jesp.2016.08.004

Small, D. A., & Verrochi, N. M. (2009). The face of need: Facial emotion expression on charity advertisements. *Journal of Marketing Research*, *46*(6), 777–787. https://doi.org/10.1509/jmkr.46.6.777

Smart Richman, L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A Multimotive Model. *Psychological Review*, *116*(2), 365–383. https://doi.org/10.1037/a0015250

Smith, A., & Williams, K. D. (2004). R u there? Ostracism by cell phone text messages. *Group Dynamics*, *8*(4), 291–301. https://doi.org/10.1037/1089-2699.8.4.291

Spector, P. E. (1994). Using self-report questionnaires in OB research: A comment on the use of a controversial method. *Journal of Organizational Behavior*, *15*(5), 385–392. https://doi.org/10.1002/job.4030150503

Spokas, M., Luterek, J. A., & Heimberg, R. G. (2009). Social anxiety and emotional suppression: The mediating role of beliefs. *Journal of Behavior Therapy and Experimental Psychiatry*, *40*(2), 283–291. https://doi.org/10.1016/j.jbtep.2008.12.004

Sprecher, S., Treger, S., & Wondra, J. D. (2013). Effects of self-disclosure role on liking, closeness, and other impressions in get-acquainted interactions. *Journal of Social and Personal Relationships*, *30*(4), 497–514. https://doi.org/10.1177/0265407512459033

Stavrova, O., Ren, D., & Pronk, T. (2021). Low self-control: A hidden cause of loneliness? *Personality and Social Psychology Bulletin*. https://doi.org/10.1177/01461672211007228

Suler, J. (2004). The online disinhibition effect. In *Cyberpsychology and Behavior* (Vol. 7, Issue 3). https://doi.org/10.1089/1094931041291295

Sullivan, G. M., & Feinn, R. (2012). Using effect size—Or why the P value is not enough. *Journal of Graduate Medical Education*, *4*(3), 279–282. https://doi.org/10.4300/JGME-D-12-00156.1

Svetieva, E., Zadro, L., Denson, T. F., Dale, E., O'Moore, K., & Zheng, W. Y. (2016). Anger mediates the effect of ostracism on risk-taking. *Journal of Risk Research*, *19*(5), 614–631. https://doi.org/10.1080/13669877.2014.1003320

Sznycer, D., Tooby, J., Cosmides, L., Porat, R., Shalvi, S., & Halperin, E. (2016). Shame closely tracks the threat of devaluation by others, even across cultures. *Proceedings of the National Academy of Sciences*, *113*(10), 2625–2630. https://doi.org/10.1073/pnas.1514699113

Tamir, D. I., & Mitchell, J. P. (2012). *Disclosing information about the self is intrinsically rewarding*. *109*(21). https://doi.org/10.1073/pnas.1202129109

Tamir, M. (2009). What do people want to feel and why?: Pleasure and utility in emotion regulation. *Current Directions in Psychological Science*, *18*(2), 101–105. https://doi.org/10.1111/j.1467-8721.2009.01617.x

Tamir, M. (2016). Why do people regulate their Emotions? A taxonomy of motives in emotion regulation. *Personality and Social Psychology Review*, *20*(3), 199–222. https://doi.org/10.1177/1088868315586325

Tamir, M., & Ford, B. Q. (2009). Choosing to be afraid: Preferences for fear as a function of goal pursuit. *Emotion*, *9*(4), 488–497. https://doi.org/10.1037/a0015882

Tamir, M., & Ford, B. Q. (2012). When feeling bad is expected to be good: Emotion regulation and outcome expectancies in social conflicts. *Emotion*, *12*(4), 807–816. https://doi.org/10.1037/a0024443

Tamir, M., Ford, B. Q., & Gilliam, M. (2013). Evidence for utilitarian motives in emotion regulation. *Cognition and Emotion*, *27*(3), 483–491. https://doi.org/10.1080/02699931.2012.715079

Tamir, M., Mitchell, C., & Gross, J. J. (2008). Hedonic and instrumental motives in anger regulation: Research report. *Psychological Science*, *19*(4), 324–328. https://doi.org/10.1111/j.1467-9280.2008.02088.x

Teng, F., & Chen, Z. (2012). Does social support reduce distress caused by ostracism? It depends on the level of one's self-esteem. *Journal of Experimental Social Psychology*, *48*(5), 1192–1195. https://doi.org/10.1016/j.jesp.2012.03.014

Thompson, M. J., Carlson, D. S., Kacmar, K. M., & Vogel, R. M. (2019). The cost of being ignored: Emotional exhaustion in the work and family domains. *Journal of Applied Psychology*, *105*(2), 186–195. https://doi.org/10.1037/apl0000433

Tiedens, L. Z. (2001). Anger and advancement versuss sadness and subjugation:the effect of negative emotion expressions on social status coferral. *Journal of Personality and Social Psychology*, *80*(1), 86–94.

Tobin, D. L., Holroyd, K. A., Reynolds, R. V., & Wigal, J. K. (1989). The hierarchical factor structure of the coping strategies inventory. *Cognitive Therapy and Research*, *13*(4), 343–361. https://doi.org/10.1007/BF01173478

Tobin, S. J., McDermott, S., & French, L. (2018). The role of group size in reactions to ostracism and inclusion. *Group Processes & Intergroup Relations*, *21*(7), 1014–1033. https://doi.org/10.1177/1368430217702723

Tremmel, S., & Sonnentag, S. (2018). A sorrow halved? A daily diary study on talking about experienced workplace incivility and next-morning negative affect. *Journal of Occupational Health Psychology*, *23*(4), 568–583. https://doi.org/10.1037/ocp0000100

Troisi, J. D., & Gabriel, S. (2011). Chicken soup really is good for the soul: "Comfort food" fulfills the need to belong. *Psychological Science*, *22*(6), 747–753. https://doi.org/10.1177/0956797611407931

Tuscherer, T., Sacco, D. F., Wirth, J. H., Claypool, H. M., Hugenberg, K., & Wesselmann, E. D. (2016). Responses to exclusion are moderated by its perceived fairness. *European Journal of Social Psychology*, *46*(3), 280–293. https://doi.org/10.1002/ejsp.2152

Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology*, *81*(6), 1058–1069. https://doi.org/10.1037/0022-3514.81.6.1058

Tyndall, I., Waldeck, D., Riva, P., Wesselmann, E. D., & Pancani, L. (2018). Psychological flexibility and ostracism: Experiential avoidance rather than cognitive fusion moderates distress from perceived ostracism over time. *Journal of Contextual Behavioral Science*, *7*(February), 72–80. https://doi.org/10.1016/j.jcbs.2018.02.001

van Beest, I., van Kleef, G. A., & van Dijk, E. (2008). Get angry, get out: The interpersonal effects of anger communication in multiparty negotiation. *Journal of Experimental Social Psychology*, *44*(4), 993–1002. https://doi.org/10.1016/j.jesp.2008.02.008

van Beest, I., & Williams, K. D. (2006). When inclusion costs and ostracism pays, ostracism still hurts. *Journal of Personality and Social Psychology*, *91*(5), 918–928. https://doi.org/10.1037/0022-3514.91.5.918

van Beest, I., Williams, K. D., & van Dijk, E. (2011). Cyberbomb: Effects of being ostracized from a death game. *Group Processes & Intergroup Relations*, *14*(4), 581–596. https://doi.org/10.1177/1368430210389084

van Dijk, E., van Beest, I., van Kleef, G. A., & Lelieveld, G.-J. (2018). Communication of anger versus disappointment in bargaining and the moderating role of power. *Journal of Behavioral Decision Making*, *31*(5), 632–643. https://doi.org/10.1002/bdm.2079

van Kleef, G. A. (2009). How emotions regulate social life: The Emotions as Social Information (EASI) Model. *Current Directions in Psychological Science*, *18*(3), 184–188. https://doi.org/10.1111/j.1467-8721.2009.01633.x

van Kleef, G. A., & Côté, S. (2018). Emotional dynamics in conflict and negotiation: Individual, dyadic, and group processes. *Annual Review of Organizational Psychology and Organizational Behavior*, *5*(1), 437–464. https://doi.org/10.1146/annurev-orgpsych-032117-104714

van Kleef, G. A., & Côté, S. (2022). The social effects of emotions. *Annual Review of Psychology*, *73*(1), 629–658. https://doi.org/10.1146/annurev-psych-020821-010855

van Kleef, G. A., De Dreu, C. K. W., & Manstead, A. S. R. (2004). The interpersonal effects of emotions in negotiations: A motivated information processing approach. *Journal of Personality and Social Psychology*, *87*(4), 510–528. https://doi.org/10.1037/0022-3514.87.4.510

van Osch, Y., Zeelenberg, M., Breugelmans, S. M., & Brandt, M. J. (2019). Show or hide pride? Selective inhibition of pride expressions as a function of relevance of achievement domain. *Emotion*, *19*(2), 334–347. https://doi.org/10.1037/emo0000437

Vannini, N., Watson, S., Dautenhahn, K., Enz, S., Sapouna, M., Wolke, D., Woods, S., Hall, L., Paiva, A., André, E., Aylett, R., & Schneider, W. (2011). "FearNot!": A computer-based anti-bullying-programme designed to foster peer intervention. *European Journal of Psychology of Education*, *26*(1), 21–44. https://doi.org/10.1007/s10212-010-0035-4

Voelkel, J. G., Ren, D., & Brandt, M. J. (2021). Inclusion reduces political prejudice. *Journal of Experimental Social Psychology*, *95*(2021), 1–14. https://doi.org/10.1016/j.jesp.2021.104149./j.jesp.2021.104149

Von Culin, K. R., Hirsch, J. L., & Clark, M. S. (2018). Willingness to express emotion depends upon perceiving partner care. *Cognition and Emotion*, *32*(3), 641–650. https://doi.org/10.1080/02699931.2017.1331906

Vonasch, A. J., Reynolds, T., Winegard, B. M., & Baumeister, R. F. (2017). Death Before Dishonor: Incurring Costs to Protect Moral Reputation. *Social Psychological and Personality Science*. https://doi.org/10.1177/1948550617720271

Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of schoolwide positive behavioral interventions and supports on bullying and peer rejection: A randomized controlled effectiveness trial. *Archives of Pediatrics and Adolescent Medicine*, *166*(2), 149–156. https://doi.org/10.1001/archpediatrics.2011.755

Wagenmakers, E. J. (2007). A practical solution to the pervasive problems of p values. In *Psychonomic Bulletin and Review*. https://doi.org/10.3758/BF03194105

Waldeck, D., Bissell, G., & Tyndall, I. (2020). Experiential avoidance as a moderator for coping with a brief episode of ostracism: A pilot study. *Journal of Contextual Behavioral Science*, *17*(July), 68–72. https://doi.org/10.1016/j.jcbs.2020.06.002

Waldeck, D., Tyndall, I., Riva, P., & Chmiel, N. (2017). How do we cope with ostracism? Psychological flexibility moderates the relationship between everyday ostracism experiences and psychological distress. *Journal of Contextual Behavioral Science*, *6*(4), 425–432. https://doi.org/10.1016/j.jcbs.2017.09.001

Wang, K., & Pachankis, J. E. (2016). Gay-Related Rejection Sensitivity as a Risk Factor for Condomless Sex. *AIDS and Behavior*, *20*(4), 763–767. https://doi.org/10.1007/s10461-015-1224-6

Warburton, W. A., Williams, K. D., & Cairns, D. R. (2006). When ostracism leads to aggression: The moderating effects of control deprivation. *Journal of Experimental Social Psychology*, *42*(2), 213–220. https://doi.org/10.1016/j.jesp.2005.03.005

Wesselmann, E. D., Bagg, D., & Williams, K. D. (2009). "I Feel Your Pain": The effects of observing ostracism on the ostracism detection system. *Journal of Experimental Social Psychology*, *45*(6), 1308–1311. https://doi.org/10.1016/j.jesp.2009.08.003

Wesselmann, E. D., Grzybowski, M. R., Steakly-Freeman, D. M., DeSouza, E. R., Nezlek, J. B., & Williams, K. D. (2016). Social exclusion: Psychological approaches to understanding and reducing its impact. In P. Riva & J. Eck (Eds.), *Social Exclusion: Psychological Approaches to Understanding and Reducing Its Impact* (pp. 3–23). https://doi.org/10.1007/978-3-319-33033-4

Wesselmann, E. D., Nairne, J. S., & Williams, K. D. (2012). An evolutionary social psychological approach to studying the effects of ostracism. *Journal of Social, Evolutionary, and Cultural Psychology*, *6*(3), 309–328. https://doi.org/10.1037/h0099249

Wesselmann, E. D., Williams, K. D., & Hales, A. H. (2013). Vicarious ostracism. *Frontiers in Human Neuroscience*, *7*(April), 153. https://doi.org/10.3389/fnhum.2013.00153

Wesselmann, E. D., Wirth, J. H., Pryor, J. B., Reeder, G. D., & Williams, K. D. (2013). When do we ostracize? *Social Psychological and Personality Science*, *4*(1), 108–115. https://doi.org/10.1177/1948550612443386

Wesselmann, E. D., Wirth, J. H., Pryor, J. B., Reeder, G. D., & Williams, K. D. (2015). The role of burden and deviation in ostracizing others. *Journal of Social Psychology*, *155*(5), 483–496. https://doi.org/10.1080/00224545.2015.1060935

Whitson, J., Wang, C. S., Kim, J., Cao, J., & Scrimpshire, A. (2015). Responses to normative and norm-violating behavior: Culture, job mobility, and social inclusion and exclusion. *Organizational Behavior and Human Decision Processes*, *129*, 24–35. https://doi.org/10.1016/j.obhdp.2014.08.001

Wiggins, B. J., & Christopherson, C. D. (2019). The replication crisis in psychology: An overview for theoretical and philosophical psychology. *Journal of Theoretical and Philosophical Psychology*, *39*(4), 202–217. https://doi.org/10.1037/teo0000137

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, *58*, 425–452. https://doi.org/10.1146/annurev.psych.58.110405.085641

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 41, Issue 08, pp. 275–314). Elsevier Inc. https://doi.org/10.1016/S0065-2601(08)00406-1

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology*, *79*(5), 748–762. https://doi.org/10.1037/0022-3514.79.5.748

Williams, K. D., Govan, C. L., Croker, V., Tynan, D., Cruickshank, M., & Lam, A. (2002). Investigations into differences between social- and cyberostracism. *Group Dynamics: Theory, Research, and Practice*, *6*(1), 65–77. https://doi.org/10.1037/1089-2699.6.1.65

Williams, K. D., & Jarvis, B. (2006). Cyberball: A program for use in research on interpersonal ostracism and acceptance. *Behavior Research Methods*, *38*(1), 174–180. https://doi.org/10.3758/BF03192765

Williams, K. D., Yeager, D. S., Cheung, C. K. T., & Choi, W. (2012). *Cyberball 4.0* (Vol. 0, pp. 1–12).

Williams, S. L., & Mickelson, K. D. (2008). A paradox of support seeking and rejection among the stigmatized. *Personal Relationships*, *15*(4), 493–509. https://doi.org/10.1111/j.1475-6811.2008.00212.x

Williams, W. C., Morelli, S. A., Ong, D. C., & Zaki, J. (2018). Interpersonal emotion regulation: Implications for affiliation, perceived support, relationships, and well-being. *Journal of Personality and Social Psychology*, *115*(2), 224–254. https://doi.org/10.1037/pspi0000132

Wirth, J. H. (2016). Methods for Investigating Social Exclusion. In P. Riva & J. Eck (Eds.), *Social Exclusion* (pp. 25–47). Springer International Publishing. https://doi.org/10.1007/978-3-319-33033-4_2

Wirth, J. H., & Williams, K. D. (2009). `They Don't Like Our Kind': Consequences of being ostracized while possessing a group membership. *Group Processes & Intergroup Relations*, *12*(1), 111–127.

Wölfer, R., & Scheithauer, H. (2013). Ostracism in childhood and adolescence: Emotional, cognitive, and behavioral effects of social exclusion. *Social Influence*, *8*(4), 217–236. https://doi.org/10.1080/15534510.2012.706233

Wu, L. Z., Yim, F. H. kit, Kwan, H. K., & Zhang, X. (2012). Coping with workplace ostracism: The roles of ingratiation and political skill in employee psychological distress. *Journal of Management Studies*, *49*(1), 178–199. https://doi.org/10.1111/j.1467-6486.2011.01017.x

Wubben, M. J. J. J., Cremer, D. De, & Dijk, E. van. (2011). The communication of anger and disappointment helps to establish cooperation through indirect reciprocity. *Journal of Economic Psychology*, *32*(3), 489–501. https://doi.org/10.1016/j.joep.2011.03.016

Xia, A., Wang, B., Song, B., Zhang, W., & Qian, J. (2019). How and when workplace ostracism influences task performance: Through the lens of conservation of resource theory. *Human Resource Management Journal*, *29*(3), 353–370. https://doi.org/10.1111/1748-8583.12226

Yaakobi, E., Administration, B., & College, O. A. (2021). *Personality as a moderator of immediate and delayed ostracism distress*. 1–27. https://doi.org/10.1111/bjso.12484

Yang, J., & Treadway, D. C. (2018). A social influence interpreatation of workplace ostracism and counterproductive work behavior. *Journal of Business Ethics*, *148*(4), 879–891. https://doi.org/10.1007/s10551-015-2912-x

Yentes, R., & Wilhelm, F. (2021). *Package ' careless ': Procedures for computing indices of careless responding version*. 1–11. https://doi.org/10.1016/j.jesp.2015.07.006>. License

Zadro, L., Boland, C., & Richardson, R. (2006). How long does it last? The persistence of the effects of ostracism in the socially anxious. *Journal of Experimental Social Psychology*, *42*(5), 692–697. https://doi.org/10.1016/j.jesp.2005.10.007

Zadro, L., Williams, K. D., & Richardson, R. (2004). How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology*, *40*(4), 560–567. https://doi.org/10.1016/j.jesp.2003.11.006

Zadro, L., Williams, K. D., & Richardson, R. (2005). Riding the "O" Train: Comparing the efffects of ostracism and verbal dispute on targets and sources. *Group Processes & Intergroup Relations*, *8*(2), 125–143. https://doi.org/10.1177/1368430205051062

Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion*, *13*(5), 803–810. https://doi.org/10.1037/a0033839

Zawadzki, M. J., Danube, C. L., & Shields, S. A. (2012). How to talk about gender inequity in the workplace: Using WAGES as an experiential learning tool to reduce reactance and promote self-efficacy. *Sex Roles*, *67*(11–12), 605–616. https://doi.org/10.1007/s11199-012-0181-z

Zech, E., & Rimé, B. (2005). Is talking about an emotional experience helpful? Effects on emotional recovery and perceived benefits. *Clinical Psychology and Psychotherapy*, *12*(4), 270–287. https://doi.org/10.1002/cpp.460

Zhao, H., Peng, Z., & Sheard, G. (2013). Workplace ostracism and hospitality employees' counterproductive work behaviors: The joint moderating effects of proactive personality and political skill. *International Journal of Hospitality Management*, *33*, 219–227. https://doi.org/10.1016/j.ijhm.2012.08.006

Zimmerman, C. A., Carter-Sowell, A. R., & Ganesan, A. (2021). Confrontation as an interpersonal response to ostracism. *European Journal of Social Psychology*, *51*(3), 436–449. https://doi.org/10.1002/ejsp.2749

Acknowledgements

Acknowledgements

Dear reader,

What a ride. It took a while, but we got there, folks. After five years of work and many revisions, here is a dissertation that was made a reality by the collective efforts of many scientists, and many friends and family members. It takes a village they say (about other things usually, but I think doing a PhD and authoring a dissertation should also be one of those things that falls under the category of things that "take a village" to do). Considering the hundreds and thousands of participants who answered questions, took part in experiments, and filled out surveys for this dissertation, I can confidently say that it took a village. That's why I would like to start by thanking all those (anonymous) people who *took part* in the research that made this dissertation what it is. Without you, this dissertation would not have existed – literally. I'll now take some time to thank the other people of this metaphorical village who have helped make this dissertation a reality, in one way or another (even if they don't know it).

I would like to thank you, the reader. How did you like this dissertation (if you read other parts of it as well of course)? Do you have any notes? Rhetorical question of course, after the day of my defense I won't be accepting any questions or comments about the contents of this dissertation[25]. Yet, I'm still thankful that you took the time to read some parts of this book (maybe just this section but that's okay). You are also an honorary part of this metaphorical village now.

My supervisors Dongning, Yvette, Ilja, and Eric. You helped me big time in doing my PhD. Arguably, you four are the reason why I ended up working on this dissertation for the duration of my PhD. After endless discussions, countless revisions, and limitless feedback, I feel like I leveled up at least a few levels compared to when I first started my studies. Thank you for your guidance in the last five years and answering my endless questions when I felt like I needed to "really make sure" that I was doing things right.

Special thanks to colleagues (who in some cases ended up being friends) and friends (who in some cases ended up also being my colleagues). My time in Tilburg would not have been the same without all the lunches, the coffee

25 JK.

breaks, the Friday drinks, and the ASPO parties. Thanks to these moments, I looked forward to coming to the office (sometimes) and made friends along the way. Among these friends, some answered a ton of questions (not only about work) (e.g., Willem), some co-authored a paper with me (e.g., Bastian), some will be (or were) standing next to me while I'm defending this dissertation (e.g., Hannes). And many more who helped make this dissertation a reality by being part of a supportive community of PhD students and early career scientists in Tilly town (e.g., Rabia, How, Olmo, Joeri, Fieke, Karlijn, Byron). A lot of people outside of Tilburg also contributed to this dissertation in a manner that may not be so easily traceable. Some, for example, worked on a sister project and discussed social exclusion with me for many times over the years (e.g., Frank). Additionally, all those colleagues and friends I met over the years in councils (e.g., Tilburg TSB PhD Council), committees (e.g., ASPO Dissertation award committee), courses (e.g., KLI courses) or conferences (e.g., ASPO), thank you for the lovely exchange of ideas that undoubtedly inspired parts of this dissertation or the way I did things during my studies. Also, some friends ended up being (honorary) colleagues during this journey. Some helped me in every step of the way and will be (or were) standing next to me while I defend what I said in this book (e.g., Ceren), with some we helped each other make sense of ourselves in this world of academia (e.g., Irem), some managed to meet me both in the Netherlands and every time I go to Turkey and made me question if they're actually two persons (e.g., Elif). Also, some were my housemates who maybe didn't know much about my research but listened to me talk (or complain) about it for many times so their efforts need to be acknowledged (e.g., Al, Alex, Andrea, Gray, Tracian, Stefan, and Venuri [Yes, they are all my current housemates. It's a living community.]).

My partner Dirk. Thanks for making this process easier for me by always landing an ear and making me feel like what I say is interesting. You were there when I was feeling overwhelmed to make me feel like it wasn't a big deal. Thank you for being my partner and thank you for always supporting me. Also, you designed the cover (and the chapter title pages) of this book and I couldn't ask for a better collab and a better designer! Teşekkürler.

Bir de tabi aileme teşekkür etmek istiyorum. Aysun ve Yaşar, buralara gelebilmem için elinizden gelen her şeyi yapıp, benim eğitimimi bazen kendinizden bile önceye koyduğunuz için teşekkür ederim. Sizin desteğiniz olmadan ne bugün bu kitabi yazabilir ne de profesörlerin önünde fikirlerimi savunabilirdim. Çiğdem, sana da teşekkür ederim! Bana her zaman yanımda olduğunu ve desteğini hiç esirgemeyeceğini hissettirdiğin için minnettarım.

Her ne kadar kilometrelerce uzakta olsam da desteğinizi hep hissediyorum ve bunun için size teşekkür ederim!

Thank you, folks!

Erdem

The "Kurt Lewin Institute Dissertation Series"

The "Kurt Lewin Institute Dissertation Series"

The "Kurt Lewin Institute Dissertation Series" started in 1997. The following dissertations have been published during the last two years. The complete list can be found on our website: https://kurtlewininstituut.nl

2021-01: Mengchen Dong: *Understanding Moral Hypocrisy: Behavioral Antecedents and Social Consequences*
2021-02: Daniel Sloot: *Bringing Community and Environment Together: The role of community environmental initiatives in sustainability transitions*
2021-03: Burkhard Wörtler: *Enhancing Blended Working Arrangements and Individual Work Performance*
2021-04: Frank Doolaard: *Social exclusion - put into context*
2021-05: Laurens van Gestel: *The psychology of nudging - An investigation of effectiveness and acceptability*
2021-06: Ruddy Faure: *Implicit partner evaluations: How they form and affect close relationships*
2021-07: Rosabelle Illes: *Between a rock and a hard place: Challenges, strategies and resolution of value mediation*
2021-08: Nadja Zeiske: *The Intrinsic Route to Pro-Environmental Behaviour*
2021-09: Katherina Tatiana Alvarez Durnov: *The Psychological Impact of Receiving Aid*
2021-10: Peikai Li: *Looking on the Bright and Dark Sides of Working Life: Appraisals of Work Characteristics and Employee Outcomes*
2022-01: Iris van Sintemaartensdijk: *Burglary in virtual reality*
2022-02: Lu Liu: *Public participation in decision making on sustainable energy transitions*
2022-03: Rabia Kodapanakkal: *The role of tradeoffs and moralization in the adoption of big data technologies*
2022-04: Elissa El Khawli: *Why, When, and How Workers Regulate: A lifespan perspective on work design and emotion regulation at work*
2022-05: Chantal van Andel: *Clinical Grade Differences Between Ethnic Minority and Majority Students: Institutional-, assessor and student-related factors*
2022-06: Inga Rösler: *Hear me out: How to create an open mind towards moral criticism*
2022-07: Tessa Coffeng: *Bias in supervision: A social psychological perspective on regulatory decision-making*
2022-08: Babet Kanis: *Hope and Health in the Face of Adversity*

2022-09: Martijn Blikmans: *Do we live in the age of emotion politics? The effects of anger, disgust, hope, and nostalgia communication on political support and polarization*
2022-10: Anne van Valkengoed: *Reality, causes, consequences: The role of climate change perceptions in climate adaptation*
2022-11: Dan Sun: *How People Learn to Act on Goals: A New Examination of the Mechanistic Ideomotor Action Account*
2022-12: Carla Roos: *Everyday Diplomacy: Dealing with controversy online and face-to-face*
2022-13: Christhian Martínez*: Hate: Distinctive Features Across Individuals and Groups*
2022-14: Wenrui Cao: *Forgiveness in Work Relationships: Causes and Consequences*
2022-15: Jiafang Chen: *How Narcissists Navigate the Communal World*
2023-01: How Hwee Ong: *Demystifying Magical Justice Beliefs: Believing in Justice in a World of Injustices*

The work in this doctoral dissertation breaks new ground by focusing on the intersection of two core human qualities: belonging and communicating. Across five empirical chapters in two sections, my co-authors and I explored questions related to talking about social exclusion among various populations, such as university students, working adults, and adolescents. In the first section, we advanced the literature on social exclusion by studying the predictors of and barriers to talking about social exclusion. The second section had a more practical goal: to make other people talk about social exclusion *more*. To that end, we discussed a proof-of-concept training program aimed at raising awareness about social exclusion in schools and developed a new paradigm to study ostracism. The dissertation concludes with a critical reflection of the current work, identifying major limitations and setting an agenda for future research on talking about social exclusion.

kurtle winins tituut

Dissertation series: 2023-2