The Subjective Construal of Social Exclusion:

An Integrative Model

Inaugural Dissertation

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by

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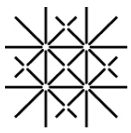

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Declaration

I, Selma C. Rudert (born October 30th, 1987 in Mainz, Germany), hereby declare that I have written the submitted doctoral thesis "The Subjective Construal of Social Exclusion: An Integrative Model" without any assistance from third parties not indicated.

(I) My cumulative dissertation is based on four manuscripts, two accepted and two submitted. I certify here that the articles in this dissertation concern original work. I contributed substantially and independently to all manuscripts in this dissertation with respect to the ideas, data collection, analyses, and writing of the manuscripts, which is reflected in me being first author. This characterization of my contributions is in agreement with my co-authors' views.

(II) I only used the resources indicated.

(III) I marked all the citations.

Basel, _____

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Selma C. Rudert

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Abstract

Research on social exclusion has mainly focused on situations in which exclusion is highly ambiguous and represents a violation of prevailing inclusion norms. However, it has rarely been accounted for that social exclusion situations are subjectively construed by the involved actors. In this dissertation, I suggest that subjective reactions to exclusion are cognitively mediated and do not necessarily depend on objective qualities of the exclusion experience. I further present a construal-based model of social exclusion that frames the construal of social exclusion as a function of norm consistency (whether social exclusion is consistent with or violating social norms) and the adopted perspective (targets, sources, and observers).

This dissertation contains four manuscripts, which emphasize the important role of subjective construal. Rudert, Hales, Greifeneder, and Williams (2016) showed that minimal acknowledgement affects the subjective experience of exclusion more strongly than the objective amount of exclusion. Rudert and Greifeneder (2016) demonstrated that targets' negative reactions to exclusion are attenuated if exclusion is perceived as consistent with compared to violating the prevailing social norm. Rudert, Janke, and Greifeneder (2016) investigated subjective exclusion experiences as a reaction to an anti-immigration popular vote in Switzerland and demonstrated differences due to personal norms and attitudes. Finally, Rudert, Reutner, Greifeneder, and Walker (2017) showed that observers' moral judgment of social exclusion experiences is affected by facial characteristics of the excluded target. All manuscripts are discussed in terms of the presented model together with additional lines of research that can be derived from a perspective of subjective construal.

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Preface

The presented thesis is a publication-based dissertation in line with the regulations at the Faculty of Psychology, University of Basel. It consists of four manuscripts that are embedded in an integrative model. The aim of this framework is to place the single manuscripts within the bigger scope of my research program and highlight interrelations between the manuscripts.

The following four manuscripts are part of the dissertation:

(1) Rudert, S. C. & Greifeneder, R. (2016). When it's okay that I don't play: Social norms and the situated construal of social exclusion. *Personality and Social Psychology Bulletin, 42*(7), 955-969. doi: 10.1177/0146167216649606

(2) Rudert, S. C., Janke, S., & Greifeneder, R. (2016). Under threat by popular vote: Naturalistic exclusionary threat due to the Swiss vote against mass immigration. *Manuscript submitted to PLOS ONE.*

(3) Rudert, S. C., Reutner, L., Greifeneder, R., & Walker, M. (2017). Faced with exclusion: Perceived facial warmth and competence influence moral judgments of social exclusion. *Journal of Experimental Social Psychology, 68,* 101-112. doi: 10.1016/j.jesp.2016.06.005

(4) Rudert, S. C., Hales, A. H., Greifeneder, R., & Williams, K. D. (2016). If you can't say something nice, please speak up anyway: Why acknowledgement matters even when being excluded. *Manuscript submitted to Personality and Social Psychology Bulletin.*

1. Introduction

Matters of social exclusion and ostracism[1] have long since preoccupied human beings and societies. No matter whether one is looking at the individual level, such as ostracism in the classroom (Atlas & Pepler, 1998) or at the workplace (O'Reilly, Robinson, Berdahl, & Banki, 2015), at a societal level such as selection procedures where some individuals get accepted and some rejected (Thorat & Attewell, 2007), or even on a global scale, such as immigration or asylum policies (Gradstein & Schiff, 2006; Rudert, Janke, & Greifeneder, 2016) – the question of who is part of a group and who is not has always been one of the most ubiquitous and important throughout human history. This high significance is no surprise, given that the need to belong is perceived to be one of the most central and fundamental human needs (e.g., Baumeister & Leary, 1995; Williams, 2009).

Accordingly, a plethora of research has aimed to understand how individuals experience exclusion (Baumeister, Brewer, Tice, & Twenge, 2007; Bernstein & Claypool, 2012; Eck, Schoel, & Greifeneder, in press; Eisenberger, Lieberman, & Williams, 2003; Rudert & Greifeneder, 2016; Williams, 2009) and what kind of consequences derive from social exclusion experiences (e.g., Baumeister, et al., 2007; Gardner, Pickett, & Brewer, 2000; Maner, DeWall, Baumeister, & Schaller, 2007; Pickett, Gardner, & Knowles, 2004; Smart Richman & Leary, 2009; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; Williams, 2009; for recent meta-analyses see Blackhart, Nelson, Knowles, & Baumeister, 2009; Gerber & Wheeler, 2009; Hartgerink, van Beest, Wicherts, & Williams, 2015). To do so, the majority

[1] In social exclusion research, there is a variety of terms for the investigated phenomenon, such as "social exclusion" (not being part of a group or activity), "rejection" (having a lower relational value than desired) as well as "ostracism" (being ignored and excluded), see Leary (2005) for a discussion. While there are differences between these concepts that need to be acknowledged and warrant further research, ultimately they are closely related. In this thesis I will review and discuss literature on all three phenomena and use the terms interchangeably, but mostly I refer to "social exclusion" as a broad, comprehensive category.

of studies have used highly ambiguous exclusion situations in which no or few explanations or reasons for the exclusion are offered. However, because in real life there are usually reasons as to why a group decides to exclude someone, it is questionable whether such a setup matches the majority of social exclusion experiences in real life. Given that social situations are subjectively construed, there might also be large differences in how social exclusion episodes are understood depending on how the excluded person interprets the social situation.

In the following sections, I first present the default view that is prevalent in research on social exclusion. Next, I propose a new model of social exclusion that accounts for subjective construal and integrates the aspects of norm consistency as well as perspectives of different actors in social exclusion episodes. Finally, I will discuss several theoretical as well as practical implications of this novel approach.

2. Social Exclusion Research: The Default Perspective

Social exclusion, ostracism, and rejection are common phenomena. One in ten U.S. employees (Alterman, Luckhaupt, Dahlhamer, Ward, & Calvert, 2013) and about a third of school children between 12-18 (U.S. Department of Education, 2013) report current experiences with workplace bullying or harassment. In a diary study, Nezlek, Wesselmann, Wheeler, and Williams (2012) found that participants reported, on average, about one ostracism episode per day. Typically, these experiences are perceived as hurtful and threaten fundamental human needs of belonging, self-esteem, control, and meaningful existence (Williams, 2009). Supporting empirical evidence comes both from studies based on self-reports as well as fMRI studies demonstrating that being excluded activates similar brain regions as the experience of physical pain does (Eisenberger, et al., 2003). If the experience of social exclusion continues over a long period of time, social exclusion may result in grave consequences, such as depression and learned helplessness as well as feelings of loss of control and aggression (Twenge, Baumeister, Tice, & Stucke, 2001). In the worst cases,

prolonged experiences of being excluded and ignored have even been linked to suicide attempts and shooting sprees (Leary, Kowalski, Smith, & Phillips, 2003; Williams, 2009).

Given these severe consequences, it is not surprising that the large majority of research in the field of social exclusion has focused on how the *targets* of social exclusion react to such experiences. In the respective studies, participants are typically subjected to a short period of ostracism or rejection – for instance, by not receiving a ball in the virtual ball throwing game ("Cyberball"; Williams, Cheung & Choi, 2000; for an overview see Hartgerink et al., 2015), being ignored in chat rooms or text message discussions (Gardner, et al., 2000; A. Smith & Williams, 2004), or receiving no "Likes" on a social media platform (Wolf et al., 2014). In other paradigms, participants are told that one or more individuals are not interested in working with them (Çelik, Lammers, van Beest, Bekker, & Vonk, 2013; Wesselmann, Butler, Williams, & Pickett, 2010) or that they are the kind of person that will end up alone in life (Bernstein & Claypool, 2012; Twenge, et al., 2007; Twenge, et al., 2001). Following this experience, participants are asked about their fundamental needs and mood (e.g., Rudert & Greifeneder, 2016; see also Williams, 2009) or they are subjected to other tasks measuring behavioral responses such as aggressive or prosocial reactions (e.g., Bernstein, Young, Brown, Sacco, & Claypool, 2008; Chow, Tiedens, & Govan, 2008; Maner, et al., 2007; Schoel, Eck, & Greifeneder, 2014; Williams & Sommer, 1997).

While the abovementioned paradigms are very successful in producing strong negative reactions to social exclusion, they have in common that the reasons for social exclusion mostly remain unclear and the situations are thus highly ambiguous (see Tuscherer et al., 2015, for a similar argument). Social exclusion is thus not justified and perceived as a violation of the inclusion norm that is prevalent in typical experimental social exclusion paradigms (Rudert & Greifeneder, 2016; Wesselmann, Wirth, Pryor, Reeder, & Williams, 2013). For example, participants in Cyberball report the normative expectation that they feel

they should be included in the game (Rudert & Greifeneder, 2016). If they are not, they experience feelings of threat and hurt and feel insecure about how to react properly to the situation. However, many exclusion experiences in the real world are less ambiguous and also might not represent a norm violation. In the next paragraph, I will discuss why it is important to consider how individuals interpret and thus subjectively construe an exclusion situation.

3. Social Exclusion as a Function of Subjective Construal

It is a central tenet of social psychology that individuals do not react to social situations per se, but rather to their subjective construal of the respective situations (E. R. Smith & Semin, 2004, 2007). This especially applies to social exclusion episodes that can be due to a variety of reasons as well as represent a form of social interaction with more than one person involved. To construe an exclusion episode, the involved actors have to subjectively interpret the underlying motive of the other persons' actions. Thus, reactions to social exclusion are cognitively mediated and depend on how individuals construe the respective situation (e.g., as a punishment, an accidental mistake, or a situational necessity).

If social exclusion episodes are subjectively construed, it makes sense to assume that there is no perfect covariation between *objective exclusion* (i.e., a person is not part of a specific group or activity) and the *subjective experience of exclusion*, that is, the (mostly negative) cognitive and affective changes that occur when a person thinks that s/he is being excluded. Hence, individuals will likely not react to objective aspects of exclusion per se (such as how many excluders there are, the duration of exclusion, etc.), but rather to the social information that they feel these aspects convey (such as intentions, underlying reasons and chances of reinclusion).

Lending empirical support for this assumption, Rudert, Hales, Greifeneder, & Williams (2016) investigated the effect of mere acknowledgement as well as of the number of

excluding sources on need fulfillment following a social exclusion experience. We let participants play an apartment-hunting game (Studies 3 and 4), with the goal to be accepted as a tenant by the members of an apartment complex. In this game, both the number of rejections that a participant received (that is, the "objective amount of exclusion") was manipulated as well as whether participants received an acknowledging message that changed nothing about the rejection per se, though. To assess the subjective experience of exclusion, we measured participants' need fulfillment following the rejections. The results showed that while mere acknowledgement significantly increased participants' need fulfillment following exclusion, there was no effect of the objective amount of rejection on the subjective experience. In fact, in the third study, participants even reacted more positively when they had received four rejections combined with an acknowledging message compared to when they had received three rejections but were not acknowledged at all. The results cannot be explained by the friendliness of the acknowledgement compensating for the rejections, since the fourth study demonstrates that even receiving a hostile message reduced need threat significantly compared to being ignored altogether.

More empirical evidence speaking against a necessary dependence of objective and subjective exclusion comes from studies showing that it is possible for a person to feel subjectively excluded, although objectively s/he is not. For instance, Rudert, Janke, and Greifeneder (2016) found that current immigrants in Switzerland reported feelings of hurt and threat following a popular initiative aiming to regulate future immigration, although in fact, there were no direct, objective consequences of the vote for current immigrants.

It should be noted though that while I have argued that there is no perfect covariation between objective exclusion and the subjective experience of the exclusion, they are most likely aligned more often than not. This should especially be the case if the objective aspects convey information that is relevant for subjective construal. For instance, in the first two studies of

Rudert, Hales, and colleagues (2016), participants were excluded in Cyberball and some of them were reincluded at the end of the game. Here, less objective exclusion (receiving ball throws at the end of the game) resulted in less subjective feelings of exclusion. This is probably because participants subjectively interpreted these final ball throws as receiving acknowledgement and a possible chance for future inclusion.

Taken together, whether objective exclusion is linked to subjective exclusion thus strongly depends on whether these objective aspects are relevant for the individual's subjective construal of the exclusion episode. In order to understand how social exclusion episodes are subjectively construed and which subsequent reactions derive from these construals, I propose two factors that influence subjective construal: First, the underlying reasons for social exclusion or, more specifically, whether social exclusion is perceived as norm-consistent or norm-violating. Second, the adopted perspective, that is, whether social exclusion is construed by the *target, the sources,* or potential *observers* that may be present. In the following, I will focus on each factor separately and then discuss how they interact.

3.1. Underlying Reasons: Norm Violating vs. Norm Consistent Exclusion

One important distinction regarding the subjective construal of social exclusion is whether or not the underlying reasons for exclusion are in line with *social norms.* Social norms are mental representations of appropriate situational behavior that consequently guide and constrain behavior in the respective contexts (Aarts & Dijksterhuis, 2003; Cialdini & Trost, 1998). They can be put in place by explicitly stated rules or can develop implicitly out of individuals' interactions (Cialdini & Trost, 1998). Typically, they consist of (a) a collective agreement about how people *ought to* behave in a certain situation, (b) an expectation that they *will* behave in that fashion, and (c) a certain probability that an attempt to break the norm will be punished by other people (Cialdini & Trost, 1998; Gibbs, 1965).

Norms of inclusion and exclusion likely exist for all social situations that individuals have a concept of (i.e., situations that can be categorized in existing formats of social interaction). Many situations in life have a prevailing *inclusion norm*, such as not excluding others from a game or paying attention to a person that speaks to you. However, there are also many situations with prevailing *exclusion norms*, that is, situations that demand the exclusion of a specific person or a group of individuals (Rudert & Greifeneder, 2016). In these cases, social exclusion is *norm consistent*, that is, there is a specific reason for exclusion that most people would agree with. A typical example for an exclusion norm might be regulations that exclude young people under a certain age limit from a bar or when people ignore one another in an elevator or in a library. Such cases have also been termed *role-prescribed ostracism* (Williams, 2009). Importantly, these norms can be very specific, as was demonstrated by Zuckerman, Miserandino, and Bernieri (1983), who showed that elevator riders felt uncomfortable when their co-riders were both completely ignoring them or staring at them all the time. It was only when the co-riders conformed to the norm, by giving the participants a short, acknowledging glance and then ignoring them for the rest of the ride, that participants felt comfortable.

Alternatively, norm-consistent social exclusion can also be a powerful mechanism in upholding prevailing social norms when used as a *punishment.* Deviant group members, who have previously violated group norms themselves, might face ostracism to be punished for their behavior (Kerr & Levine, 2008; Kerr et al., 2009; Kurzban & Leary, 2001). For instance, a person who got overly drunk at a bar and picked several fights might be excluded from visiting that bar in the future. In these cases, social exclusion is used instrumentally in order to both protect a functioning group or society from a deviant as well as force the respective deviant to adjust his or her behavior.

In contrast, *norm-violating social exclusion* occurs when a person is excluded despite of a strong inclusion norm, which is the case in Cyberball as well as most of the common social exclusion paradigms (Rudert & Greifeneder, 2016; Wesselmann, Wirth, et al., 2013). These instances may have several reasons as well, ranging from active, malicious intent to hurt the ostracized person, to defensive ostracism to protect oneself, and oblivious ostracism, during which a person is simply not deemed worthy of attention (Williams, 2002). However, because there is no norm that presents a reason as to why social exclusion represents an adequate behavior, these reasons may be more difficult to understand, thus creating ambiguous situations that are typical for laboratory social exclusion paradigms.

How typical are norm-violating and norm-consistent instances of social exclusion? In a diary study, it was found that 33% of all exclusion experiences that an individual encounters daily were classified as defensive or oblivious ostracism and thus potentially norm-violating (Nezlek, et al., 2012). In comparison, more that 42% can be categorized as either role-prescribed or punitive ostracism and thus as potentially norm-consistent. However, despite the relative frequency of norm-consistent social exclusion, laboratory research on social exclusion has almost exclusively focused on ambiguous, norm-violating social exclusion experiences.

Focusing on the difference between the two forms of exclusion, Rudert and Greifeneder (2016) suggest that norm-consistent exclusion should pose less threat to an individual's inclusionary status, because especially in episodes of role-prescribed exclusion, individuals might feel that they should not be included in the first place. In addition, because individuals know what the underlying reasons are, they might have a better idea what they need to do in order to get (re)included compared to individuals who are excluded due to norm-violating reasons. Accordingly, we hypothesized that reactions to norm-consistent social exclusion should be attenuated compared to norm-violating exclusion. In order to directly compare the

effects of two forms of exclusion experiences, we conducted four studies in which the norm consistency of the exclusion was systematically varied. In the first two studies, some participants played a standard game of Cyberball and were either excluded or included. In line with previous studies, excluded participants reported strong levels of threat and hurt compared to included participants. Moreover, most of them reported that they had started the game with the normative expectation to be included in the game. However, some of the participants were presented with a different norm, namely that the idea of the game was to throw the ball to the participant they liked least (Study 1) or that they would assume the role of a trainer whose goal it is to merely observe a ball throwing practice between two trainees (Study 2). In both studies, feelings of need threat and hurt were significantly reduced when social exclusion was in line with a prevailing exclusion norm compared to when it was violating an (implicit or explicit) inclusion norm. Guided by these differing social norms, individuals construe the exclusion situation in different ways, namely as an inclusionary threat in case of a norm violation and as normatively appropriate in case of norm consistency. In line with this interpretation, the first study also showed that the effect of norm consistency on threat was mediated via a less hostile construal of the other participant's intentions.

To attenuate threat and hurt reactions, it is important that the excluded individual personally endorses the respective exclusion norm. In the third study, Rudert and Greifeneder (2016) had participants play a Public Good Dilemma, with the collective good being speaking time in a fictional debate. Participants could make an agreement with their co-players regarding whether they wanted to distribute speaking time cooperatively or competitively. Independent of the agreement, all participants were excluded, that is, they ended up with no speaking time. The results showed that only if both participants and their ostensible co-players had previously agreed to a competitive (exclusion) norm, were need threat and hurt attenuated.

For many situations in the real word, there may be a collective agreement about which norms are prevalent und thus whether inclusion or exclusion is consistent with social norms. However, especially in intercultural or political contexts, conflicting norms might be prevalent or salient, and thus, the threat level resulting from an exclusion experience might differ. In the fourth study, we investigated members of political parties who were excluded from a discussion because of a gender quota. Members of right-wing parties who typically do not support gender quotas reacted with feelings of threat when being excluded compared to being included. In comparison, left-wing political party members (who do support gender quotas) experienced less threat than right-wing participants, no matter whether they were included or excluded.

To test the effect of norm consistency on the construal of social exclusion in a more natural setting, Rudert, Janke, and Greifeneder (2016) conducted a survey among German-speaking immigrants in Switzerland following the Swiss popular vote "Against Mass immigration" in 2014. The respective popular initiative was highly debated in Switzerland and received a lot of media attention; still, it was eventually accepted by 50.6 percent of the electorate. Results of the survey showed that immigrants reported strong feelings of threat, hurt, and negative mood as a result of the vote and, thus, it is likely that they perceived the result of the vote as an exclusionary threat. However, this was especially the case for participants with a more left-wing political orientation who potentially experienced the result of the vote as a stronger violation of their attitudes and norms than more conservative participants. In support of this explanation, the relation between political orientation and affective reaction to the vote was mediated via general attitudes towards immigration regulation. Moreover, the more strongly participants were against the regulation of immigration, the more negative their satisfaction with life, the higher their desire to move away, and the more negative the attitude change

towards Switzerland that participants reported as a result of the vote. All these relations were at least partially mediated via the first affective reaction to the vote.

In sum, whether social exclusion is perceived as consistent with or violating social as well as personal norms and attitudes can substantially affect the experienced amount of threat and hurt. Recent research by Tuscherer and colleagues (2015) indicates that this might even be the case for punitive ostracism: The authors showed that participants experienced less need threat and antisocial intent when recalling situations in which they were excluded after they had done something wrong (fair ostracism) compared to instances in which they felt they were unfairly ostracized. They explain their findings with the greater ambiguity of unfair ostracism. This is also in line with research by Sommer, Williams, Ciarocco, and Baumeister (2001) showing that ostracism is less hurtful when the reasons are causally clear. A norm perspective is highly compatible with such a view: In most norm-consistent exclusion episodes, the reasons for norm-consistent exclusion should be causally clear, since targets are usually aware of the prevailing social norms. In contrast, the reasons for norm-violating exclusion are often inscrutable from a target's perspective.

3.2. Perspectives on Social Exclusion Episodes

In the previous section, I mainly focused on the *targets of social exclusion*, that is, the person that is being excluded. However, in line with a subjective construal perspective, it is also important to consider the perspective of other actors that are present in a social exclusion experience. Aside from the target, there are the *sources* of exclusion, that is, persons that exclude the target. Moreover, there may be *observers* present in the situation, which may or may not decide to get involved in the situation. In the following paragraphs, I will give a short overview of previous research regarding both perspectives.

3.2.1. Sources

Perhaps surprisingly, for the sources, the consequences of social exclusion are not as positive as one might expect given that sources are the ones initiating ostracism in the first place. On the one hand, excluding others from a group increases cohesiveness, commitment, and belonging within that group (Poulsen & Kashy, 2012; Zadro, Williams, & Richardson, 2005). However, especially within dyads, tactics such as the silent treatment can also threaten the sources' belongingness (Williams, Shore, & Grahe, 1998; Zadro & Gonsalkorale, 2014) because it disrupts the sources' relation with the target. Evidence for a positive effect on the needs of self-esteem, meaningful existence, and control have been mixed (Williams, et al., 1998; Zadro & Gonsalkorale, 2014). For instance, excluding others seems to fortify control initially (Gooley, Zadro, Williams, Svetieva, & Gonsalkorale, 2015; Nezlek, Wesselmann, Wheeler, & Williams, 2015; Sommer, et al., 2001; Williams, et al., 1998), but upholding ostracism over a long time requires a high amount of self-control and thus may eventually result in strain and cognitive deficits (Ciarocco, Sommer, & Baumeister, 2001; Zadro & Gonsalkorale, 2014). It is probable that the effects of social exclusion on the sources largely depend on how autonomous participants experience their decision to exclude others (Gooley, et al., 2015). In most paradigms used to study sources, participants were prompted by the experimenter to exclude others, which resulted in feelings of distress and guilt (Legate, DeHaan, Weinstein, & Ryan, 2013; Poulsen & Kashy, 2012), perceived immorality, and even self-dehumanization (Bastian et al., 2013). However, sources also reported dislike for the target (Poulsen & Kashy, 2012) as well as attempts to justify ostracism (Sommer, et al., 2001).

While in real life there might also be situations in which individuals are (explicitly or implicitly via group norms) pressured to exclude others, in other situations sources might decide more autonomously whether they want to exclude someone or not. Kurzban and Leary (2001) have postulated the following evolutionary motives behind social exclusion: First, to

sort out and avoid poor social exchange partners who either do not conform to social exchange norms or cannot offer anything of value. These individuals are typically punished either with ostracism or even additional sanctions in order to uphold the norms of social exchange and to discourage other potential freeloaders (this is in line with the punitive motive as suggested by Williams, 2002). A second motive is to protect and benefit one's own ingroup, which usually results in outgroup members being excluded from benefits and even systematically exploited. Finally, individuals exclude others in order to protect themselves from parasites and illnesses, which often results in an overgeneralized avoidance reaction regarding people who appear strange or disfigured in any way.

3.2.2. Observers

In many situations, from an outsider's perspective it might not be clear what the underlying motive of the sources is, which is why *observers* of social exclusion may often find themselves in a difficult role: They face the decision of whether they want to act on observed exclusion or not, and if they do, whether they want to actively include the target and compensate him/her for being excluded by others, or join the sources in excluding the target. It should be noted that, since social exclusion is often a mostly passive behavior, a decision not to act may be hard to distinguish from approval in many instances. Most of the studies that investigated the reactions of observers found evidence for a phenomenon called *vicarious ostracism*. In these studies, participants felt uncomfortable and threatened when observing exclusion, tended to empathize with the targets and, if possible, tried to compensate them (Masten, Morelli, & Eisenberger, 2011; Wesselmann, Bagg, & Williams, 2009; Wesselmann, Williams, & Hales, 2013; Will, Crone, van den Bos, & Güroğlu, 2013). Still, if previously uninvolved observers feel that they might become targets themselves, there is the possibility that they might join the sources in excluding a target (Klauke & Williams, 2015).

Most of the studies that focused on observers had participants watch a game of Cyberball, during which a target was excluded from a ball-throwing game by two sources. As previously explained, social exclusion in Cyberball is perceived as a strong violation of social norms by the perpetrators. In line with this, Wesselmann, Wirth, and colleagues (2013) showed that in a standard Cyberball game, observers reported sympathy for the target and tried to compensate by directing more throws towards the target. However, results differed when the target threw the ball more slowly than the other players. Here, participants felt that the target was being a burden and consequently even joined the other players in excluding the target (see also Wesselmann, Williams, & Wirth, 2014).

In real life, however, information about the target might not always be readily available, especially when the observer in not even a part of the respective group. To decide whether social exclusion is an acceptable behavior or not in ambiguous situations, observers must subjectively construe the exclusion situation and to do so, rely on the cues that are available in the respective situation. Rudert, Reutner, Greifeneder, and Walker (2017) investigated facial appearance as such a potential cue that might affect an individual's moral judgment. Previous research has shown that faces are a pervasive cue that individuals intuitively use to draw inferences and make judgments about others (e.g., Ballew & Todorov, 2007). Building on the stereotype content model (Fiske, Cuddy, Glick & Xu, 2002), we thus assumed that excluding cold-and-incompetent looking others would be perceived as most acceptable, because according to theory, such individuals are seen as exploitative and evoke feelings of disgust. In contrast, excluding warm-and-incompetent looking others should be perceived as especially inacceptable because these individuals are stereotypically seen as likeable but also helpless and in need of protection.

In three studies, participants were presented with manipulated facial portraits of allegedly ostracized persons and then decided within four seconds how acceptable it was to exclude this

person. The presented faces were manipulated on the personality dimensions "warmth" and "competence" (Walker & Vetter, 2016). The first study showed that participants' moral judgment was in fact influenced by facial information. As hypothesized, participants judged it as morally least acceptable to exclude a person that appeared warm and incompetent and most acceptable to exclude a cold-and-incompetent looking individual than any other person. In the second study, the faces of the sources were additionally manipulated. The warmth x competence interaction that was obtained for the target faces in the first study replicated best when the sources were cold-and-incompetent looking. This finding suggests that observers tend to picture sources of ostracism as cold and incompetent. This is in line with research indicating that observers often disapprove of ostracism (Wesselmann, Wirth, et al., 2013). Finally, in the third study we investigated mediations of the warmth and competence effect on an observer's moral judgment via emotions and found that the effect is mainly driven by the presence or absence of disgust that is evoked by the faces. More specifically, cold and incompetent looking faces evoke more feelings of disgust in observers, which is presumably why observers spontaneously feel that it is more acceptable to exclude them. In contrast, warm-and-incompetent looking faces evoke little disgust, which is why exclusion is seen as especially inacceptable. In sum, the studies indicate that even minimal cues such as facial appearance can influence an observer's judgment of exclusion episodes. This is important given that observers do have a key role in these situations: Depending on how they interpret the situation and subsequently act on it, they have the power to either end a social exclusion episode or join the sources and exclude the target themselves.

4. Towards a Construal-based Model of Social Exclusion

In the first part of this dissertation, I summarized the present focus of research in social exclusion that has mainly concentrated on the targets and exclusion situations in which exclusion was norm-violating. As a result, research programs as well as paradigms have rarely

accounted for the highly important subjective construal of exclusion situations. Here, I have proposed that reactions to social exclusion are cognitively mediated and thus, subjective feelings of exclusion do not necessarily depend on degrees of objective exclusion. Derived from this central tenet, I have discussed that the construal of a social exclusion episodes is mainly influenced by two factors: a) whether exclusion is consistent with or violates social norms and b) the perspectives of the involved actors. These two factors can be combined in an integrative model, in which social exclusion situations are understood as subjective construals resulting from the perspective of the involved actors as well as the prevailing norms of the situation. I further presume that depending on the adopted perspective, norm consistency likely affects different psychological processes: From a target perspective, perceived norm consistency influences the *attributions and subsequent reactions* of the targets. As for the sources, norm consistency is mainly reflected in the underlying *motives* of the sources for excluding others. Finally, whether observers feel that social exclusion is consistent with or violating social norms likely influences their *moral judgment.* In the following sections, I will discuss each of these three processes separately.

4.1. Target Attributions: The Importance of Control and Causal Clarity

From the target's perspective, making a correct distinction between norm-consistent and norm-violating social exclusion is highly important. While a norm violating exclusion represents a threat that must be dealt with immediately, a norm-consistent exclusion is often not even considered as a threat to one's inclusionary status and may thus not warrant a response (Rudert & Greifeneder, 2016). An interesting exception here is punitive exclusion: While punitive exclusion is generally perceived as norm-consistent and less negative than norm-violating social exclusion (Tuscherer, et al., 2015), it does represent a threat to one's inclusionary status and possibly also calls for respective actions. Still, a typical punitive exclusion episode is only temporary and, thus, targets will eventually be reincluded or may

even be able to achieve reinclusion by their own efforts (for instance, by making amends for the deviation that led to ostracism). Thus, punitive exclusion may often leave targets with more control than norm-violating exclusion.

To be perceived as norm-consistent, the underlying reasons for both role-prescribed and punitive exclusion must be causally clear for the target. In contrast, norm-violating social exclusion usually comes with strong ambiguity about why the target is excluded in the first place (e.g., by accident, because of malicious intent, because of a disagreement in social norms). Norm violating exclusion therefore not only violates normative expectations but possibly also leaves the excluded target helpless and unsure about the appropriate course of action.

4.2. Self-Serving vs. COP Motives of the Sources

As for the *sources,* a distinction between norm-consistent and norm-violating social exclusion is inseparably related to a distinction on the motives for social exclusion. It should be mentioned that sources might also exclude a target without an underlying motive, that is, by accident. In such cases, it can be assumed that sources would perceive this incident as a norm violation and feel guilty once they realize what they have done. In contrast, if the sources are aware that they are excluding the target and still perceive the exclusion as norm-violating, it is likely that the reason for exclusion is directly linked to a benefit for these sources or, in a broader sense, for their ingroup as an extension of the self. One motive can be a privileged access to certain resources, such that the sources do not wish to share with the target and thus the target is excluded (Kurzban & Leary, 2001). However, excluding another person can also be a means to boosting one's own fundamental needs, such as to increase group cohesion within one's own group, to avoid a distressful confrontation (Sommer & Yoon, 2013; Williams, 2002), or just to heighten one's own sense of control (Zadro & Gonsalkorale, 2014).

Even though norm-consistent exclusion may also serve the self or one's ingroup, by being in line with a social norm it further serves a bigger purpose, namely maintaining the rules of the group or society that the individual belongs to (Nezlek, et al., 2015). Given that having a set of defined norms or rules is crucial for human groups (Cialdini & Trost, 1998; Ditrich & Sassenberg, 2016; Kerr & Levine, 2008), it is even possible that an individual would decide to exclude another individual against his or her personal interests, if it is beneficial for the group or society as a whole. Here, I suggest three broad classes of motives that describe why an individual would want to exclude another person in line with or even in order to maintain social norms. These classes of motives are henceforth termed the COP functions: *choosing, orientation,* and *punishing.*

First, in many situations in everyday life it is not possible to include everyone because resources are limited: For instance, many people may apply for limited spaces or a position only one person can be selected for. In these cases, it is norm-consistent to *choose*, that is, to select persons who can be included and to exclude everyone who cannot. This is usually done by criteria such as merit, motivation or, in some cases, random choices. An example of exclusion for reasons of choice would be a university that admits only selected students, usually the ones with the best performances at school or at an admission test.

Second, even without limitations, some people may just not be allowed in certain groups, activities, or places according to the prevailing social norms. Excluding them serves an *orientation* function, by which the excluded individuals are pointed to their designated place or role. This motive corresponds to role-prescribed exclusion from the target's perspective. For instance, individuals under a certain age may not be allowed to drink alcohol, which is why they are excluded from bars or clubs. But also in informal situations, sources may act in line with an orienting motive, for instance, if a person informs an acquaintance that s/he is not invited to a dinner party because the party is meant for close family members only.

Third, it has already been mentioned that individuals may exclude others to punish them for a previous norm deviation (Kurzban & Leary, 2001; Wesselmann, Wirth, et al., 2013). While this motive may also be linked to a need for control, the difference to norm-violating exclusion is that its primary motivation is not of a selfish nature, but for the benefit of the group as a whole (Ditrich & Sassenberg, 2016). Exclusion for the benefit of the many may thus be some form of altruistic punishment, which serves the purpose of making the excluded individual adopt a behavior in line with social norms (Fehr & Fischbacher, 2004; Nezlek, et al., 2015).

4.3. Observers' Perspective: Moral Judgment under Uncertainty

From the perspective of *observers,* a distinction between norm-consistent and norm-violating social exclusion is most likely crucial when trying to determine why a social exclusion episode has occurred. Generally, it can be assumed that observers will react positively to exclusion episodes that they interpret as norm-consistent, and negatively to exclusion episodes that they see as a violation of social norms. Here, I suggest that the interpretation of exclusion episodes is highly dependent on observers' understanding of the prevailing social norms, the amount of information that observers have to base their judgment on and, finally, the capacity and motivation they have to process that information.

Observers' judgments may be most accurate when they have witnessed the interaction that preceded the exclusion, so that they may know whether the excluded target has transgressed against a group norm before. Still, even with complete information, observers may differ just as much as the targets in their understanding of social norms and so, different interpretations and reaction may occur. Moreover, in many situations it is likely that observers do not have all available information or, alternatively, they are not able to process it due to limited motivation as well as cognitive capacity (Petty & Cacioppo, 1984). If this is the case, standard models of information processing predict that observers will revert to using more simple cues

and heuristics, such as stereotypes, which are prone to error and invalid judgments (Brewer, 1988; Fiske & Neuberg, 1990; Macrae, Milne, & Bodenhausen, 1994). Some cues that may be more or less valid depending on the situation might be judgments based on stereotypes (Rudert, et al., 2017) as well as a typical constellation within the group (i.e., whether the excluded target differs from the other group members, so that the exclusion may be attributable to ingroup favoritism within the observed group). Alternatively, because individuals typically see themselves and their respective ingroup in a positive light (Bandura, 1999; Tajfel & Turner, 1979), observers may use themselves as a reference group and base their judgments on their own similarity with the target or sources. Similarly, in line with findings that individuals are also prone to group-serving attribution biases (Pettigrew, 1979), observers might be more accepting of exclusion when it occurs in their ingroup compared to their outgroup.

In the context of moral judgment of social exclusion, erroneous moral judgments of observers are highly problematic, especially if one thinks of possible behavioral consequences such as bystander intervention. Since observing social exclusion is distressing for bystanders (Wesselmann, et al., 2009), they might need to decide within a short period and with a minimum of information whether they want to assist and support an excluded target or rather side with the sources and maybe even ostracize the target themselves. Especially when time and/or cognitive capacity are limited, superficial and invalid cues may distort observers' decisions, resulting in incorrect judgments with possibly critical effects, such as the unjustified blaming of ostracism victims.

4.4. Differences in Subjective Construal

It should be pointed out that the different perspectives of whether exclusion is norm-consistent or norm-violating do not necessarily align. Instead, it is likely that the interpretation of the situation differs depending on the respective subjective interpretation of

the situation. While a source may exclude a target for a reason that is perfectly norm-consistent in the sources' point of view, the target as well as possible observers may still perceive exclusion as a norm-violation and react accordingly. This may be due to the target and sources differing in their endorsement of the prevailing social norm, for example, due to differences in political attitudes or values (Rudert & Greifeneder, 2016). Alternatively, targets and sources may interpret the entire situation differently. A person might for instance give his or her partner the silent treatment as a punishment because s/he feels disregarded by him/her (Williams, et al., 1998), whereas the partner feels that s/he did no such thing and thus perceives it as unfair and cruel that s/he is ostracized. In the most extreme case, the sources may not even be aware that they are excluding the target, for instance, when a person is simply overlooked by accident (Nezlek, et al., 2015; Williams, 2002).

5. Implications for Research on Social Exclusion

The model presented in this dissertation has several implications for theory as well as future research on social exclusion. On the theoretical side, it extends current models of exclusion by emphasizing the importance of how social situations are construed. Current research, to the present date, has almost solely focused on the norm-violating aspect of social exclusion, using highly ambiguous paradigms in which no obvious reason for exclusion is detectable. Exclusion in real life, however, rarely happens in an absolutely ambiguous setting. Often, there is an underlying motive of the sources that may or may not be in line with the interpretation of the situation by the target as well as observers. Adopting such a more situated, integrative view on social exclusion by introducing both the aspect of norm-consistency as well as perspective is likely to move the literature ahead and resolve some outstanding issues in the field. For instance, Rudert and Greifeneder (2016) showed that reflexive reactions to ostracism, that were long considered to be insensitive to differential and

situational influences (Williams, 2009), can be moderated by changing the prevailing norms of the situation.

The presented model further opens up a wide range of possible research questions comparing aspects of norm-violating and norm-consistent exclusion across different perspectives, as discussed both in the previous section as well as in the manuscripts reported as a part of this dissertation (Rudert & Greifeneder, 2016; Rudert, Janke, et al., 2016; Rudert, et al., 2017). Additionally, a broader perspective on social exclusion also calls for the development of novel research paradigms allowing investigation of these questions. To a certain degree, current research paradigms such as Cyberball might be adaptable to include more context as well as differing perspectives (Gooley, et al., 2015; Klauke & Williams, 2015; Rudert & Greifeneder, 2016; Wesselmann, et al., 2014; Wesselmann, Wirth, et al., 2013). However, especially Cyberball, which has been established as some form of "gold standard" in social exclusion research and inspired over 200 publications to the present date (Hartgerink, et al., 2015), remains inherently norm-violating and ambiguous in its basic structure. While this is desirable for studies that specifically aim to investigate effects of ambiguous, norm-violating exclusion situations, the huge popularity of the paradigm may lead researchers to the treacherous conclusion that findings that are typical for Cyberball studies are valid for all kinds of social exclusion situations. Thus, to investigate which findings generalize across paradigms and which ones are typical for a special paradigm or a certain class of paradigms, it is necessary to generate paradigms that can account for differences in subjective construal. For instance, some authors had participants recall autobiographical events in which they had been ostracized for various reasons (Bernstein, et al., 2008; Tuscherer, et al., 2015), although these paradigms come with the caveat of not being able to control for the exact nature of experience that participants recall. Some other alternative paradigms that appear promising are presented in manuscripts which are part of this dissertation (Rudert & Greifeneder, 2016; Rudert, Hales,

et al., 2016). Ultimately, these different paradigms could be compared in a meta-analysis in order to investigate which social exclusion paradigms are most suitable for which research purposes.

6. Practical Implications

While the aim of the presented model is mainly to contribute and expand research on social exclusion, there are also practical implications that can be derived from the presented considerations. First, the model's assumption that objective exclusion cannot be equated with subjective exclusion automatically is important to keep in mind for many issues and debates going on in the real world. In many debates around issues of equal rights and opportunities, a common argument aiming to close such a debate is that certain groups or demographics are not *objectively* excluded. What is often ignored, however, is that even if exclusion is not intended by the sources, it might still be perceived subjectively as such by the targets, sometimes because of minor factors or incidents. Still, if targets feel excluded for a reason that is not in line with a social norm that they endorse, they will suffer from the negative consequences that come with social exclusion (Rudert & Greifeneder, 2016; Rudert, Janke, et al., 2016).

On an optimistic note, one can argue that some of these subjectively perceived social exclusion situations that derive from mere misunderstandings about the prevailing social norm may be avoidable by educating potential targets about the respective prevailing norms. For instance, there have been promising results with interventions for minority students, who often experience belonging uncertainty and suffer from disadvantages because they tend to interpret rejection and exclusion as a result of their minority status (Walton & Cohen, 2007). In a minimal intervention at the beginning of their first year in college, these students were told that insecurity during one's first year is normal and not necessarily due to their minority status (Walton & Cohen, 2011). Minority students who received the intervention showed

improved academic performance and health even after three years. In terms of the presented model, they were taught a different prevailing norm which framed a certain degree of exclusion as norm-consistent. As a result, students might have been more confident and felt less threatened when experiencing exclusion.

Second, to enhance causal clarity and reduce potential hurt, the sources of social exclusion might do well in openly communicating their (norm-consistent) motives for social exclusion and, also, whether and how inclusion is possible in the future. For instance, institutions should be open with their selection criteria as well as which rights and benefits apply to which person. But also individuals or small groups can communicate why they only invited close friends to a party, or that they expect a person who has exploited the group to make amends before s/he is reincluded. Sources benefit from being open about their norm-consistent motives for social exclusion because of two reasons: (a) they avoid potential threat and hurt for targets that might not understand the reasons for exclusion otherwise. This is especially important when sources care personally about the targets, such as close friends or family. As for (b), sources who make it clear that they exclude for norm-consistent reasons minimize the chance of being perceived as norm-violating and selfish, which could result in dislike and also punishment from the targets as well as uninvolved observers. The notion that clarity of communication is beneficial for both targets and sources receives empirical support from a diary study demonstrating that increased clarity of ostracism is typically associated with more positive emotional consequences for the sources (Nezlek, et al., 2015). For these reasons, individuals who necessarily need to exclude or reject others (e.g., HR departments, student services, editorial boards) should ideally be educated about subjective construal of exclusion and learn how to communicate respective decisions in the most adequate, norm-consistent way.

Finally, despite the mostly positive examples, it should be mentioned that norm-consistent exclusion does not mean morally "good" exclusion. In contrast to societies which strive for inclusion and equality, more restrictive societies and groups that rely heavily on implicit and explicit norms and rules for acceptable behavior may use exclusion as tool to uphold the desired social order. In extreme cases, this can result in laws that discriminate and aim to suppress certain minorities. Here, norm-consistent exclusion may be in line with societies' rules, but still feel damaging to members of the excluded minority who do not endorse these norms. As an aggravating factor, such targets can rarely hope for third-party support if exclusion is in line with the social norm. Still, it might be just as critical if targets do endorse these norms, accept their exclusion as norm-consistent and submit to the outcast role that they feel entitled to. In that sense, norm-consistent exclusion may pose a danger on its own, which calls for further research on this important topic.

7. Conclusions

The model presented in this dissertation extends present theorizing in social exclusion research, which has largely centered on norm-violating, highly ambiguous exclusion experiences. By integrating norm consistency as well as different perspectives on social exclusion in this model, exclusion is put in a situated context that highly depends on the subjective construal of the involved actors. Accounting for subjective construal allows for investigation into new research questions, such as establishing factors that influence subjective construal, comparing different subjective construals across perspectives, or creating interventions aiming to disclose and understand the underlying reasons for social exclusion.

8. References

Aarts, H., & Dijksterhuis, A. (2003). The silence of the library: Environment, situational norm, and social behavior. *Journal of Personality and Social Psychology, 84*(1), 18 - 28. doi: 10.1037/0022-3514.84.1.18

Alterman, T., Luckhaupt, S. E., Dahlhamer, J. M., Ward, B. W., & Calvert, G. M. (2013). Job insecurity, work,family imbalance, and hostile work environment: Prevalence data from the 2010 National Health Interview Survey. *American Journal of Industrial Medicine, 56*(6), 660-669. doi: 10.1002/ajim.22123

Atlas, R. S., & Pepler, D. J. (1998). Observations of bullying in the classroom. *The Journal of Educational Research, 92*(2), 86-99. doi: 0.1080/00220679809597580

Ballew, C. C., & Todorov, A. (2007). Predicting political elections from rapid and unreflective face judgments. *Proceedings of the National Academy of Sciences, 104*(46), 17948-17953. doi:10.1073/pnas.0705435104

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review, 3*(3), 193-209. doi: 10.1207/s15327957pspr0303_3

Bastian, B., Jetten, J., Chen, H., Radke, H. R. M., Harding, J. F., & Fasoli, F. (2013). Losing our humanity: The self-dehumanizing consequences of social ostracism. *Personality and Social Psychology Bulletin, 39*(2), 156-169. doi: 10.1177/0146167212471205

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. doi: 10.1111/j.1751-9004.2007.00020.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. doi: 10.1037/0033-2909.117.3.497

Bernstein, M. J., & Claypool, H. M. (2012). Social exclusion and pain sensitivity: Why exclusion sometimes hurts and sometimes numbs. *Personality and Social Psychology Bulletin, 38*(2), 185-196. doi: 10.1177/0146167211422449

Bernstein, M. J., Young, S. G., Brown, C. M., Sacco, D. F., & Claypool, H. M. (2008). Adaptive responses to social exclusion social rejection improves detection of real and fake smiles. *Psychological Science, 19*(10), 981-983. doi: 10.1111/j.1467-9280.2008.02187.x

Blackhart, G. C., Nelson, B. C., Knowles, M. L., & Baumeister, R. F. (2009). Rejection elicits emotional reactions but neither causes immediate distress nor lowers self-esteem: A meta-analytic review of 192 studies on social exclusion. *Personality and Social Psychology Review, 13*(4), 269-309. doi: 10.1177/1088868309346065

Brewer, M. B. (1988). A dual process model of impression formation. In R. S. Wyer & T. K. Srull (Eds.), *Advances in Social Cognition.* Hillsdale, NJ: Erlbaum.

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*, 635-642. doi: 10.1016/j.jesp.2013.02.010

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. doi: http://dx.doi.org/10.1016/j.jesp.2007.09.004

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The Handbook of Social Psychology* (4th ed., Vol. 1, 2, pp. 151-192). New York, NY: McGraw-Hill.

Ciarocco, N. J., Sommer, K. L., & Baumeister, R. F. (2001). Ostracism and ego depletion: The strains of silence. *Personality and Social Psychology Bulletin, 27*(9), 1156-1163. doi: 10.1177/0146167201279008

Ditrich, L., & Sassenberg, K. (2016). It's either you or me! Impact of deviations on social exclusion and leaving. *Group Processes & Intergroup Relations*. doi: 10.1177/1368430216638533

Eck, J., Schoel, C., & Greifeneder, R. (in press). Coping with or buffering against the negative impact of social exclusion on basic needs: A review of strategies. In P. Riva & J. Eck (Eds.), *Social exclusion: Psychological approaches to understanding and reducing its impact* (pp. XX-XX). New York, NY: Springer.

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*(5643), 290-292. doi: 10.1126/science.1089134

Fehr, E., & Fischbacher, U. (2004). Third-party punishment and social norms. *Evolution and human behavior, 25*(2), 63-87. doi: 10.1016/S1090-5138(04)00005-4

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. *Advances in Experimental Social Psychology, 23*, 1-74. doi: 10.1016/S0065-2601(08)60317-2

Gardner, W. L., Pickett, C. L., & Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin, 26*(4), 486-496. doi: 10.1177/0146167200266007

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

Gibbs, J. P. (1965). Norms: The problem of definition and classification. *American Journal of Sociology, 70*(5), 586-594. doi: 10.2307/2774978

Gooley, S. L., Zadro, L., Williams, L. A., Svetieva, E., & Gonsalkorale, K. (2015). Ostracizing for a Reason: A novel source paradigm for examining the nature and

consequences of motivated ostracism. *The Journal of Social Psychology, 155*(5), 410-431. doi: 10.1080/00224545.2015.1060933

Gradstein, M., & Schiff, M. (2006). The political economy of social exclusion, with implications for immigration policy. *Journal of Population Economics, 19*(2), 327-344. doi: 10.1007/s00148-005-0016-0

Hartgerink, C. H., 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), e0127002. doi: 10.1371/journal.pone.0127002

Kerr, N. L., & Levine, J. M. (2008). The detection of social exclusion: Evolution and beyond. *Group Dynamics: Theory, Research, and Practice, 12*(1), 39-52. doi: 10.1037/1089-2699.12.1.39

Kerr, N. L., Rumble, A. C., Park, E. S., Ouwerkerk, J. W., Parks, C. D., Gallucci, M., & van Lange, P. A. M. (2009). "How many bad apples does it take to spoil the whole barrel?": Social exclusion and toleration for bad apples. *Journal of Experimental Social Psychology, 45*(4), 603-613. doi: 10.1016/j.jesp.2009.02.017

Klauke, F., & Williams, K. D. (2015). *Contagious ostracism. Ist Ausgrenzung ansteckend?* . Talk at the 15th conference of the Social Psychology section of the German Psychological Society (FGSP), Potsdam, Germany.

Kurzban, R., & Leary, M. R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin, 127*(2), 187-208. doi: 10.1037/0033-2909.127.2.187

Leary, M. R. (2005). Varieties of interpersonal rejection. In K. D. Williams, J. P. Forgas & W. von Hippel (Eds.), *The Social Outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 35-51). New York, NY: Psychology Press.

Leary, M. R., Kowalski, R. M., Smith, L., & Phillips, S. (2003). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive behavior, 29*(3), 202-214.

Legate, N., DeHaan, C. R., Weinstein, N., & Ryan, R. M. (2013). Hurting you hurts me too: The psychological costs of complying with ostracism. *Psychological Science, 24*(4), 583-588. doi: 10.1177/0956797612457951

Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as energy-saving devices: A peek inside the cognitive toolbox. *Journal of Personality and Social Psychology, 66*(1), 37-47. doi: 10.1037/0022-3514.66.1.37

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. doi: 10.1037/0022-3514.92.1.42

Masten, C. L., Morelli, S. A., & Eisenberger, N. I. (2011). An fMRI investigation of empathy for 'social pain' and subsequent prosocial behavior. *NeuroImage, 55*(1), 381-388. doi: 10.1016/j.neuroimage.2010.11.060

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. doi: 10.1037/a0028029

Nezlek, J. B., Wesselmann, E. D., Wheeler, L., & Williams, K. D. (2015). Ostracism in everyday life: The effects of ostracism on those who ostracize. *The Journal of Social Psychology, 155*(5), 432-451. doi: 10.1080/00224545.2015.1062351

O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. (2015). Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science, 26*(3), 774-793. doi: doi:10.1287/orsc.2014.0900

Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport's cognitive analysis of prejudice. *Personality and Social Psychology Bulletin, 5*(4), 461-476. doi: 10.1177/014616727900500407

Petty, R. E., & Cacioppo, J. T. (1984). Source factors and the elaboration likelihood model of persuasion. *Advances in Consumer Research, 11*(1), 668-672.

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. doi: 10.1177/0146167203262085

Poulsen, J. R., & Kashy, D. A. (2012). Two sides of the ostracism coin: How sources and targets of social exclusion perceive themselves and one another. *Group Processes & Intergroup Relations, 15*(4), 457-470. doi: 10.1177/1368430211430517

Rudert, S. C. & Greifeneder, R. (2016). When it's okay that I don't play: Social norms and the situated construal of social exclusion. *Personality and Social Psychology Bulletin, 42*(7), 955-969. doi: 10.1177/0146167216649606

Rudert, S. C., Hales, A. H., Greifeneder, R., & Williams, K. D. (2016). If you can't say something nice, please speak up anyway: Why acknowledgement matters even when being excluded. *Manuscript submitted for publication*.

Rudert, S. C., Janke, S., & Greifeneder, R. (2016). Under threat by popular vote: Naturalistic exclusionary threat due to the Swiss vote against mass immigration. *Manuscript submitted for publication*.

Rudert, S. C., Reutner, L., Greifeneder, R., & Walker, M. (2017). Faced with exclusion: Perceived facial warmth and competence influence moral judgments of social exclusion. *Journal of Experimental Social Psychology, 68,* 101-112. doi: 10.1016/j.jesp.2016.06.005

Schoel, C., Eck, J., & Greifeneder, R. (2014). A matter of vertical position: Consequences of ostracism differ for those above versus below its perpetrators. *Social Psychological and Personality Science, 5*(2), 149-157 doi: 10.1177/1948550613488953

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. doi: 10.1037/a0015250

Smith, A., & Williams, K. D. (2004). R u there? Ostracism by cell phone text messages. *Group Dynamics: Theory, Research, and Practice, 8*(4), 291-301. doi: 10.1037/1089-2699.8.4.291

Smith, E. R., & Semin, G. R. (2004). Socially situated cognition: Cognition in its social context. *Advances in Experimental Social Psychology, 36*, 53-117.

Smith, E. R., & Semin, G. R. (2007). Situated social cognition. *Current Directions in Psychological Science, 16*(3), 132-135. doi: 10.1111/j.1467-8721.2007.00490.x

Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (2001). When silence speaks louder than words: Explorations into the intrapsychic and interpersonal consequences of social ostracism. *Basic and Applied Social Psychology, 23*(4), 225-243. doi: 10.1207/s15324834basp2304_1

Sommer, K. L., & Yoon, J. (2013). When silence is golden: Ostracism as resource conservation during aversive interactions. *Journal of Social and Personal Relationships, 30*(7), 901-919. doi: 10.1177/0265407512473006

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. Austin & S. Worchel (Eds.), *The Social Psychology of Intergroup Relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Thorat, S., & Attewell, P. (2007). The legacy of social exclusion: a correspondence study of job discrimination in India. *Economic and Political Weekly*, 4141-4145.

Tuscherer, T., Sacco, D. F., Wirth, J. H., Claypool, H. M., Hugenberg, K., & Wesselmann, E. D. (2015). Responses to exclusion are moderated by its perceived fairness. *European Journal of Social Psychology*.

Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. *Journal of Personality and Social Psychology, 92*(1), 56-66. doi: 10.1037/0022-3514.92.1.56

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. doi: 10.1037/0022-3514.81.6.1058

U.S. Department of Education. (2013). *Student reports of bullying and cyber-bullying: Results from the 2011 School Crime Supplement to the National Crime Victimization Survey*. Retrieved from http://nces.ed.gov/pubs2013/2013329.pdf.

Walker, M., & Vetter, T. (2016). Changing the personality of a face: Perceived Big Two and Big Five personality factors modeled in real photographs. *Journal of Personality and Social Psychology, 110*(4), 609-624. doi: 10.1037/pspp0000064

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology, 92*(1), 82-96.

Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science, 331*(6023), 1447-1451. doi: 10.1126/science.1198364

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. doi: 10.1016/j.jesp.2009.08.003

Wesselmann, E. D., Butler, F. A., Williams, K. D., & Pickett, C. L. (2010). Adding injury to insult: Unexpected rejection leads to more aggressive responses. *Aggressive Behavior, 36*(4), 232-237. doi: 10.1002/ab.20347

Wesselmann, E. D., Williams, K. D., & Hales, A. H. (2013). Vicarious ostracism. *Frontiers in Human Neuroscience, 7*. doi: 10.3389/fnhum.2013.00153

Wesselmann, E. D., Williams, K. D., & Wirth, J. H. (2014). Ostracizing group members who can (or cannot) control being burdensome. *Human Ethology Bulletin, 29*(2), 82-103.

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. doi: 10.1177/1948550612443386

Will, G.-J., Crone, E. A., van den Bos, W., & Güroğlu, B. (2013). Acting on observed social exclusion: Developmental perspectives on punishment of excluders and compensation of victims. *Developmental Psychology, 49*(12), 2236-2244. doi: 10.1037/a0032299

Williams, K. D. (2002). *Ostracism: The power of silence*. New York, NY: Guilford Press.

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In P. Z. Mark (Ed.), *Advances in Experimental Social Psychology* (Vol. 41, pp. 275-314). San Diego, CA: Elsevier Academic Press.

Williams, K. D., Cheung, C. K., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*(5), 748-762. doi: 10.1037/0022-3514.79.5.748

Williams, K. D., Shore, W. J., & Grahe, J. E. (1998). The Silent Treatment: Perceptions of its Behaviors and Associated Feelings. *Group Processes & Intergroup Relations, 1*(2), 117-141. doi: 10.1177/1368430298012002

Williams, K. D., & Sommer, K. L. (1997). Social Ostracism by Coworkers: Does Rejection Lead to Loafing or Compensation? *Personality and Social Psychology Bulletin, 23*(7), 693-706. doi: 10.1177/0146167297237003

Wolf, W., Levordashka, A., Ruff, J. R., Kraaijeveld, S., Lueckmann, J.-M., & Williams, K. D. (2014). Ostracism Online: A social media ostracism paradigm. *Behavior research methods*, 1-13.

Zadro, L., & Gonsalkorale, K. (2014). Sources of ostracism: The nature and consequences of excluding and ignoring others. *Current Directions in Psychological Science, 23*(2), 93-97. doi: 10.1177/0963721413520321

Zadro, L., Williams, K. D., & Richardson, R. (2005). Riding the 'O' train: Comparing the effects of ostracism and verbal dispute on targets and sources. *Group Processes & Intergroup Relations, 8*(2), 125-143. doi: 10.1177/1368430205051062

Zuckerman, M., Miserandino, M., & Bernieri, F. (1983). Civil inattention exists - in elevators. *Personality and Social Psychology Bulletin, 9*(4), 578-586. doi: 10.1177/0146167283094007

9. Appendices

(1) Appendix A:

Rudert, S. C. & Greifeneder, R. (2016). When it's okay that I don't play: Social norms and the situated construal of social exclusion. *Personality and Social Psychology Bulletin, 42*(7), 955-969. doi: 10.1177/0146167216649606

(2) Appendix B:

Rudert, S. C., Janke, S., & Greifeneder, R. (2016). Under threat by popular vote: Naturalistic exclusionary threat due to the Swiss vote against mass immigration. *Manuscript submitted to PLOS ONE.*

(3) Appendix C:

Rudert, S. C., Reutner, L., Greifeneder, R., & Walker, M. (2017). Faced with exclusion: Perceived facial warmth and competence influence moral judgments of social exclusion. *Journal of Experimental Social Psychology, 68,* 101-112. doi: 10.1016/j.jesp.2016.06.005

(4) Appendix D:

Rudert, S. C., Hales, A. H., Greifeneder, R., & Williams, K. D. (2016). If you can't say something nice, please speak up anyway: Why acknowledgement matters even when being excluded. *Manuscript submitted to Personality and Social Psychology Bulletin.*

(5) Appendix E:

Curriculum Vitae

Running head: SOCIAL EXCLUSION AND SOCIAL NORMS

When it's okay that I don't play:
Social norms and the situated construal of social exclusion

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Abstract

Being excluded and ignored has been shown to threaten fundamental human needs and cause pain. Such reflexive reactions to social exclusion have been conceptualized as direct and unmoderated (temporal need threat model, Williams, 2009). Here we propose an extension and argue that reflexive reactions depend on how social exclusion situations are construed. If being excluded is understood as a violation of an inclusion norm, individuals will react with pain and threat. In contrast, if being excluded is consistent with the prevailing norm, the exclusion situation is interpreted as less threatening and negative reflexive reactions to ostracism should be attenuated. Four studies empirically support this conceptual model. Studies 3 and 4 further show that to guide situated construal, the norm has to be endorsed by the individual. In both Studies 1 and 3, the effect of the norm is mediated by the objective situation's subjective construal.

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Keywords: ostracism; social exclusion; social norms; situated social cognition

Being ostracized, that is, being excluded and ignored, is a powerful threat to fundamental human needs and causes pain (Williams, Cheung, & Choi, 2000). According to the temporal need-threat model of ostracism (Williams, 2009), negative effects are especially strong during the first, *reflexive* reaction to exclusion. While the reflexive reaction was initially conceptualized as invariable, evidence for moderation has accumulated in recent years (Eck, Schoel, & Greifeneder, in press). To account for variability in the reflexive stage, we build on the temporal need-threat model and propose an extension, derived from the perspective of situated social cognition (Smith & Semin, 2004, 2007). Specifically, we suggest that social norms may alter how social situations are construed and interpreted, and that reflexive reactions depend on this subjective situated construal. In doing so, this contribution conceptualizes effects of being excluded as fundamentally situated, and reactions to social exclusion as cognitively mediated.

Crucially, we distinguish between *objective exclusion* and *subjective experiences of exclusion*. *Objective exclusion* refers to the descriptive fact that a person is not a part of a group or activity. In contrast, by *subjective experience of exclusion* we refer to the mostly negative cognitive and affective reactions to exclusion, such as feelings of hurt and threat (Williams, 2009).

Reflexive Reactions to Social Exclusion

The temporal need-threat model of ostracism (TNTM; Williams, 2009) proposes three stages of the exclusion experience: a reflexive, reflective, and resignation stage. The reflexive stage occurs immediately when individuals detect that they are objectively excluded. It is associated with pain, negative mood, and a threat to four fundamental human needs: belongingness, self-esteem, meaningful existence, and control. Williams (2007a) describes the reflexive stage as a “reflexive painful response to any form of exclusion, unmitigated by

situational or individual difference factors" (p. 431). It is supposedly comparable to the feeling of touching a flame, which is "no less painful when it comes from a friendly rather than unfriendly source" (Williams, 2007b, p. 238). Corrective attributions will not be considered and processed before the individual enters the subsequent, reflective stage (Williams, 2009). The assumption of the reflexive stage's invariability receives empirical support from studies that have failed to document moderation: No matter if participants are socially anxious or not (Zadro, Boland, & Richardson, 2006), are ostracized by outgroup or ingroup members (Fayant, Muller, Hartgerink, & Lantian, 2014; Gonsalkorale & Williams, 2007; Williams, et al., 2000), by humans or a computer (Zadro, Williams, & Richardson, 2004), or lose money for being included (Van Beest & Williams, 2006), initial reactions to objective exclusion were similarly negative and strong.

Recent studies, however, have challenged the assumption of the reflexive stage's general invariability by providing evidence for moderation. For instance, individuals with traits descriptive of Cluster A personality disorders (Wirth, Lynam, & Williams, 2010) or a collectivistic orientation (Pfundmair et al., 2015) show a less pronounced negative reflexive reaction to exclusion. Other studies reframed the exclusion situation itself and demonstrated that being in a more powerful position than the ostracizers (Schoel, Eck, & Greifeneder, 2014), having better survival chances by being excluded (Van Beest, Williams, & Van Dijk, 2011), or receiving money for being excluded (Lelieveld, Gunther Moor, Crone, Karremans, & van Beest, 2013) lowered reflexive need threat. While some studies also found moderation due to racial ingroup/outgroup differences, the direction of these effects remains unclear (Bernstein, Sacco, Young, Hugenberg, & Cook, 2010; Goodwin, Williams, & Carter-Sowell, 2010; Krill & Platek, 2009). Finally, a recent meta-analysis of 120 Cyberball studies has shown that, overall, moderation in the reflexive stage could be detected (Hartgerink, van Beest, Wicherts, &

Williams, 2015).

Taken together, while early theorizing argued for an invariability of the reflexive stage, more recent studies suggest that reflexive reactions can be moderated. This calls for further theoretical development. To close this gap, we suggest and empirically substantiate an extension of the TNTM. This extension emphasizes that cognition is fundamentally situated, and assumes that objective social exclusion situations need to be subjectively construed as threatening to cause negative reflexive reactions.

Exclusion as Situated Social Construal

Our argument of a subjectively construed exclusion experience is grounded in the perspective of situated social cognition (Smith & Semin, 2004, 2007), which holds that humans derive specific cues and knowledge from aspects of the situation. Relying on these cues, individuals actively construct their interpretation of social reality. To date, there is strong evidence that "cognitive situating" occurs quickly and requires a minimum of cognitive capacity (Smith & Semin, 2004). Consistent with these findings, we suggest that situations of objective exclusion are also subject to cognitive situating and that this construal does not require deliberative thinking: If objective exclusion is construed as a strong threat to one's inclusionary status, individuals react with great pain. However, construal of the situation may moderate this effect: if an individual perceives the objective exclusion as less threatening to his or her inclusionary status, reflexive negative reactions should be of a much smaller magnitude.

Williams (2009) argued that a general reflexive reaction is evolutionary advantageous, but so is a more fine-tuned response pattern, too. This is especially the case if one takes into account that half of all exclusion situations in everyday life can be explained by situational factors such as social roles or norms (Nezlek, Wesselmann, Wheeler, & Williams, 2012).

Reacting to such a large number of relatively harmless exclusion situations reflexively with a strong degree of pain would unnecessarily deplete cognitive and emotional resources (Baumeister, Twenge, & Nuss, 2002). Moreover, while we agree that it is presumably better to err on the side of caution (Haselton & Buss, 2000), the ability to immediately distinguish between more or less threatening exclusion situations also has possible adaptive advantages. Reacting too strongly to relative "false alarms" can start a vicious cycle of showing inappropriate behavior and, consequently, being excluded by others (Romero-Canyas & Downey, 2005).

Lending empirical support to our assumption of exclusion as a situated social construal, Leary, Tambor, Terdal, and Downs (1995) demonstrated that participants' self-esteem was more strongly affected when participants were excluded due to preferences of other group members compared to a random exclusion process. Moreover, Eisenberger, Lieberman, and Williams (2003) have found differences in neural activity depending on the context of the exclusion. They observed that activation in the right ventral prefrontal cortex, which is involved in the regulation or inhibition of pain and negative affect, was higher when there was no obvious reason for being excluded compared to if participants could allegedly not play due to technical difficulties.

Such explicit and clear cues which indicate the threat-level of an exclusion episode are often missing in real life. Accordingly, the question remains as to how people can effectively distinguish between instances of exclusion that pose more versus less objective threat.

The Moderating Impact of Social Norms

We suggest that *social norms* act as important situational cues that allow for situating objective exclusion. Social norms are mental representations of appropriate situational behavior (Aarts & Dijksterhuis, 2003) that can either take the form of explicitly stated rules, such as an order or an agreement, or develop implicitly out of individuals' interactions (Cialdini & Trost,

1998). They entail both a collective agreement about how people *should* behave in a certain situation and an expectation that they *will* behave in that fashion (Gibbs, 1965). Expectations are thus an integral part of social norms, yet can also exist independently. Social norms exist for all situations that individuals have a concept for and guide the situation's construal by providing a normative framework. This framework is presumably active when the individual approaches a situation, and signals which behavior can be expected of others and the degree of threat posed by exclusion. For instance, in some situations, the prevailing implicit norm is to include other people (such as during a game of ball). If individuals are not approached, the inclusion norm is violated and they likely react with strong feelings of threat and pain (see standard Cyberball findings; e.g., Williams, 2009). However, in other situations, the implicit prevailing norm may be that people are supposed to be left alone (such as in a library or in an elevator). If an individual is then excluded, this exclusion is norm-consistent, and thus the individual may experience relatively little threat or pain. In these examples, individuals do not react to objective exclusion per se, but to its subjective cognitive construal as a function of prevailing norms.

To the present date, few studies in the field of social exclusion research have accounted for social norms. Nezlek and colleagues (2012) mention cases of *role-prescribed ostracism* (see also Williams, 2009) and observed in a diary study that participants reported weaker reactions to these incidents. However, there is no experimental research investigating role-prescribed ostracism and it remains unclear which stages are affected by a social role. While we assume that norms may also facilitate recovery, here we suggest that the respective normative framework is already active before and while an individual encounters a situation. Accordingly, norms already guide reactions while the situation occurs, which is why we predict an effect of norms in the *reflexive* stage.

Norm Violations in Previous Social Exclusion Research

Given that the need to belong is a fundamental need (Baumeister & Leary, 1995), it appears plausible that the prevailing norm in most scientific studies and paradigms in which participants are asked to work or play with others is one of inclusion (Wesselmann, Wirth, Pryor, Reeder, & Williams, 2013; Wirth, Bernstein, Wesselmann, & LeRoy, 2015). Being excluded thus likely violates this norm. Supporting this argument, it has been demonstrated that Cyberball participants expect that other players will include them in the game and that they will receive an equal share of throws (Wesselmann, Bagg, & Williams, 2009; Wesselmann, et al., 2013). This is also in line with the observation of brain activity patterns that specifically relate to the aspect of expectancy or rule violation during the game (Bolling et al., 2011; Kawamoto et al., 2012). The presence of an implicit inclusion norm also appears likely for other experimental social exclusion paradigms such as chat room paradigms or getting acquainted tasks, in which "individuals are arbitrarily excluded, and there is little justification for their treatment" (Tuscherer et al., 2015, p. 2).

We further assume that in some cases, the implicit norm of an equal share can be so strong that it is also in place when individuals objectively "profit" from being excluded. For instance, in the KKK-Study by Gonsalkorale and Williams (2007), as well as van Beest and Williams' €uroball study (2011), the implicit norm was likely one of inclusion and equal sharing (even if that meant equal sharing of losses). Given this normative setup, participants will react with threat and pain, regardless of likability or profit. Interestingly, from this perspective, the finding that reflexive reactions are unalterable may not so much reflect a true state of the world, but a specific choice of experimental situations in which exclusion violates an implicit inclusion norm.

The Present Studies

We here suggest that reflexive reactions to social exclusion depend on situated social cognitions, which are guided by the prevailing norm. We assume that objective exclusion will be experienced as less hurtful if the norm (a) allows for, or even demands, certain forms of exclusion, and (b) states that these forms of exclusion are no threat to the individual's inclusionary status.

We tested these hypotheses in four studies: In Studies 1 and 2, we replace the implicit norm of an "equal share" in the Cyberball paradigm with explicit rules that change the construal of the exclusion situation. In Study 2, we additionally demonstrate that social norms may at least partially account for why power moderates experiences during the reflexive stage. In Study 3, we investigate boundary conditions of the norm's effect by varying whether participants endorse the norm or not. In both Studies 1 and 3, we also test whether the effect of different norms on affective reactions to exclusion is mediated by the situation's subjective construal. Finally, in Study 4 we investigate the effects of a highly internalized social norm.

Sample sizes. Sample sizes were determined based on the following considerations: statistical power of $\geq .90$; large to medium effect sizes of the expected interactions (adjustments were made based on the respective previous studies; G*Power; Faul, Erdfelder, Lang, & Buchner, 2007). In compliance with ethical guidelines, participants were asked for permission to use their data for analysis at the end of all studies; if participants declined, the data was not analyzed.

Study 1

Study 1 aimed to demonstrate that prevailing implicit norms moderate reflexive reactions to social exclusion. To do so, we used the Cyberball paradigm. In Cyberball, participants play an

online ball tossing game with two alleged other participants, who are in fact simulated by the computer (Williams, et al., 2000). We suggest that exclusion in Cyberball violates the implicit norm of an equal share of throws and is therefore perceived as subjectively threatening. In line with general social cognitive models of information use (e.g. Higgins, 1996), we suggest that this implicit norm may be overpowered by other highly accessible and salient norms (Alexander & Gordon, 1971; Smith & Semin, 2004) that frame exclusion as normative. To this end, we created a version of the Cyberball game called *Dislikeball*. In Dislikeball, participants are told that everyone should throw the ball only to the person they like *least* (unless one could not make a decision, in which case one should throw to both players).

We assumed that excluded participants would experience less need threat and hurt in Dislikeball compared to Cyberball. This is because in Dislikeball, objective exclusion from the game should not be interpreted as a threat to the participant's inclusionary status but rather as an indicator that one is liked most. For included participants, we did not expect any differences between the norm conditions as further detailed below. Finally, consistent with a situational construal perspective, we expected the effect of exclusion and the norm on need threat to be mediated by the extent to which participants construed the other players' behavior as hostile.

Method

Participants and design. Participants were recruited online from different German speaking psychology students' mailing lists and online groups (e.g., Facebook group for German psychology students). Eighty-nine participants (74 females, M_{age} = 23.76, SD = 4.51) were randomly assigned to a 2 (objective situation: exclusion vs. inclusion) x 2 (norm: Cyberball vs. Dislikeball) between-participants factorial design.

Materials.

Cognitive construal. Hostile construal of the other players' actions was assessed by four items corresponding to the four needs specified by Williams (2009), e.g., *"The other players' behavior shows that they did not want me to take part"* (belongingness); 9-point Likert scales (1 = *not at all*; 9 = *very much*; Cronbach's α = .66).

Need fulfillment/threat. Dislikeball is constructed in such a way that objective exclusion (not receiving the ball) and subjective exclusion experiences (it hurts) are not aligned. Because the standard Need Threat Scale focuses on subjective experiences, but also taps into objective exclusion, we decided to construct a new measure, which focuses on subjective exclusion experiences only (henceforth referred to as Need Fulfillment Scale). In particular, participants rated to what extent the following aspects applied to them while playing: *"Acceptance by the other players"* (belongingness); *"appreciation by the other players"* (self-esteem); *"influence on the course of the game";* (control); and *"attention by the other players"* (meaningful existence), all 9-point Likert scales (1 = *very little*; 9 = *very strong*; Cronbach's α = .93). To complement this measure, we also included eight items adapted from prior ostracism studies, henceforth referred to as "Need Threat Scale" (e.g. Van Beest & Williams, 2006; Williams, 2009; Zadro, et al., 2004), all 9-point Likert scales *(1 = not at all; 9 = very much;* Cronbach's α = .88). Because Need Fulfillment and Need Threat share conceptual overlap for subjective exclusion experiences, the two measures should be highly correlated.

Hurt. Hurt was assessed with two items: *"The other players' behavior hurt me"* and *"The other players were mean to me"* (*1 = not at all; 9 = very much*; ρ = .94).

Procedure. Participants played a virtual ball-throwing game with two alleged other players. They were either included (i.e., the ball was distributed equally between all three players) or excluded (i.e., they received the ball two times at the beginning and then no more; see

Williams, et al., 2000). Orthogonal to manipulating the objective situation (inclusion; exclusion), we manipulated the prevailing norm. Participants in the standard Cyberball condition received no information about any rule. Participants in the Dislikeball condition were told that the following rule applied to all three players during the game:

"As soon as you have formed an impression of your co-players, please throw the ball only to the person you like least for the remainder of the game. If you feel that you cannot make a decision, throw the ball to both players."

After the game, the dependent variables were assessed in the order stated above. As a manipulation check, participants indicated what percentage of the throws they had received (Williams, et al., 2000), and how much they felt they were actively participating in the game *(5-point Likert Scale, 1 = not at all; 5 = very much*). Moreover, participants were asked what they assumed the prevailing norm was before the game began.

Results

Manipulation checks. A 2 (objective situation: inclusion vs. exclusion) x 2 (norm: Cyberball vs. Dislikeball) ANOVA showed that participants in the exclusion compared to the inclusion condition reported receiving fewer throws, $F(1, 85) = 714.33$, $p < .001$, $\eta^2 = .89$, 90% confidence interval (CI) = [.86, .91], ($M = 5.81$, $SD = 3.10$; $M = 31.09$, $SD = 5.38$, respectively). They also reported less active participation than the inclusion group, $F(1, 85) = 222.17$ $p < .001$, $\eta^2 = .72$, 90% CI = [.64, .78], ($M = 1.81$, $SD = .39$; $M = 3.65$, $SD = .71$). Note that the norm did not significantly affect objective exclusion (all other $ps > .316$, $\eta^2 = .00$ - .01).

In Cyberball, 84 % of the participants reported having assumed that the ball should be thrown equally to all other players. In Dislikeball, 91% of the participants correctly restated the rule that the ball should be thrown to the player one liked least.[1]

Dependent variables. A 2 (objective situation: included vs. excluded) x 2 (norm: Cyberball vs. Dislikeball) MANOVA on cognitive construal, need fulfillment, need threat, and hurt revealed a significant effect of the objective situation, Wilks' $\lambda = .342$, $F(4, 82) = 39.35$, $p < .001$, $\eta^2 = .66$, 90% CI = [.54, .71], indicating that excluded participants experienced more negative affect and cognitions compared to included participants. There was also a significant effect of the norm, Wilks' $\lambda = .848$, $F(4, 82) = 3.67$, $p = .008$, $\eta^2 = .15$, 90% CI = [.02, .24], which was qualified by the hypothesized norm x objective situation interaction, Wilks' $\lambda = .674$, $F(4, 82) = 9.90$, $p < .001$, $\eta^2 = .33$, 90% CI = [.16, .42].

To further examine the interaction effect, follow-up ANOVAs and simple main effect analyses were conducted for each of the dependent variables. The hypothesized interaction effect was significant for each dependent variable; see Table 1. Excluded participants experienced less negative affect and cognitions in Dislikeball compared to Cyberball (all $ps < .004$, $\eta^2 = .10$ -. 24). No such effect was found for the included participants; in fact, for need fulfillment, included participants experienced more need fulfillment in Cyberball compared to Dislikeball ($p = .002$, $\eta^2 = .11$; all other $ps > .109$, $\eta^2 = .00$ -. 03). All means (with standard errors) are depicted in Figure 1, see Table S1 for the simple main effect analyses.

Mediation via cognitive construal. We hypothesized that the moderating effects of a social norm on need fulfillment, need threat, and hurt would be mediated by differences in the cognitive construal of the situation. We averaged all dependent variables in a global affect measure (Cronbach's $\alpha = .88$) and tested a mediated moderation model with the SPSS PROCESS macro provided by Hayes (2013), using 5,000 bootstrap estimates. The mediation analysis yielded a significant indirect effect = -1.30, bootstrapped 95% CI = [-2.09, - .73]. The effect remained significant when it was calculated for each of the dependent variables separately.

Discussion

Results of Study 1 suggest that changing prevailing social norms and thereby the subjective construal of the situation affects subjective reflexive reactions to objective social exclusion. Specifically, Dislikeball participants, who were presented with an explicit norm that framed exclusion as no threat to one's inclusionary status, reported less need threat and hurt when being excluded than Cyberball participants, who presumed an implicit inclusion norm to be in place. This moderation effect was mediated by the cognitive construal of the other players' actions. Note that the differences in subjective experiences were observed even though participants correctly detected that they were objectively being excluded in both Dislikeball and Cyberball, thus poignantly illustrating that insight can be gained from conceptually teasing subjective exclusion experiences and objective exclusion apart.

One may wonder why for most comparisons, participants who were included in Dislikeball did not feel worse compared to participants included in Cyberball. However, one should recall that in Dislikeball, participants were allowed to refrain from making a judgment by throwing the ball equally to both co-players. Possibly, included participants assumed that both co-players did not want to make judgments about anyone's likeability, and consequently, no member of the group was ostracized.

Study 2

Study 2 aimed to extend the findings of Study 1 with the following goals in mind: First, in Study 1, the Dislikeball condition entailed more information and was less ambiguous than the Cyberball condition. This methodological difference arose because we added an explicit additional rule to Dislikeball, but relied on the existing implicit inclusion norm in Cyberball. To make sure that the observed pattern of results was not merely due to reduced ambiguity or more

information, we added an "explicit inclusion norm" condition in Study 2.

Second, Study 1 used the admittedly rather counterintuitive explicit rule of *not* throwing to the person one likes best. In Study 2, we aimed to demonstrate the hypothesized moderation effect with a different, more intuitive norm. Our choice fell on social norms resulting from a position of power. A powerful person does not necessarily need to be involved in all of the subordinates' activities, but should even stay out of certain activities to give them the opportunity to learn. Accordingly, there might be situations from which a powerful person is objectively excluded, but if these situations are acceptable and norm-consistent, subjective exclusion experiences should be attenuated. Interestingly, these assumptions fit with evidence by Schoel and colleagues (2014), who observed that if the excluded individual is literally positioned above the other (excluding) players in Cyberball and therefore "on top" of the situation (i.e., in a powerful situation), reflexive negative effects of ostracism on control and mood were less pronounced.

In Study 2, two thirds of participants were assigned to the role of a trainer and told to train the other players during a game of Cyberball (henceforth referred to as *Trainerball*). Notably, two versions of Trainerball were implemented to manipulate norms: In *Passive-Trainerball*, it was stressed that the trainees should practice on their own (explicit *exclusion* norm). In contrast, in *Active-Trainerball*, it was stressed that the trainer should be included throughout the game (explicit *inclusion* norm). The remaining third of participants was assigned to a Standard Cyberball game without any additional instructions (implicit inclusion norm). We hypothesized that Active-Trainerball and Cyberball do not significantly differ with regard to need fulfillment and hurt. We further hypothesized that participants who were excluded from Passive-Trainerball would report significantly more need fulfillment and less hurt compared to

both Active-Trainerball and Cyberball. This is because in Active-Trainerball, the norm clearly states that the trainer should be included in the game. For excluded participants, the stated norm is thus violated, and hence the social situation should be experienced as threatening despite being in power.

Method

Participants and design. Participants were recruited via Amazon's Mechanical Turk. One hundred and seventy-five participants (85 females, M_{age} = 34.92, *SD* = 11.02) were randomly assigned to a 2 (objective situation: exclusion vs. inclusion) x 3 (norm: Passive-Trainerball vs. Active-Trainerball vs. Cyberball) between-participants factorial design.

Materials. We measured the extent to which participants felt their four fundamental needs were fulfilled or threatened by using four 9-point semantic differentials representing the four needs with the adjectives *rejected – accepted* (belongingness)*, devalued – valued* (self-esteem)*, powerless – powerful* (control), and *invisible – recognized* (meaningful existence). The four items were combined into a single need threat/fulfillment index (Cronbach's α = .96). Hurt was assessed as in Study 1 (ρ = .93).

Procedure. The procedure was similar to Study 1, with the following exceptions: While Cyberball participants received no information about any rule, Trainerball participants were told that they had been assigned to the role of a trainer and that they should teach the other players how to throw the ball in the best way. In *Active-Trainerball*, they were told to train their trainees by repeatedly throwing the ball to the other two players who then had to try and imitate the trainer's technique. In *Passive-Trainerball*, participants were told to let the two trainees practice on their own after a few initial demonstration throws. Immediately after the game, participants

filled out the scales assessing the dependent variables and the manipulation checks as described in Study 1.

Results

Manipulation checks. Compared to the inclusion conditions, participants in the exclusion conditions reported receiving fewer throws, $F(1, 168) = 329.27$, $p < .001$, $\eta^2 = .66$, 90% CI = [.60, .71], ($M = 7.27$, $SD = 7.95$; $M = 32.74$, $SD = 10.15$ respectively) and less active participation, $F(1, 169) = 455.63$ $p < .001$, $\eta^2 = .73$, 90% CI = [.72, .80], ($M = 2.17$, $SD = .73$; $M = 4.46$, $SD = .67$). There was no significant influence of the norm on objective exclusion (all $ps > .224$, $\eta^2 = .00$ - $.02$). The majority of participants also correctly restated their role assignment (99%) as well as the assigned norm (Passive-Trainerball: 72%, Active-Trainerball: 75%, Cyberball: 90%).[1]

Dependent variables. A 2 (included vs. excluded) x 3 (Passive-Trainerball vs. Active-Trainerball vs. Cyberball) MANOVA on need threat/fulfillment and hurt revealed a significant effect of the objective situation, Wilks' $\lambda = .593$, $F(2, 168) = 57.69$, $p < .001$, $\eta^2 = .41$, 90% CI = [.31, .48], indicating that excluded participants experienced more negative affect and cognitions compared to included participants. There was also a significant effect of the norm, Wilks' $\lambda = .875$, $F(4, 336) = 5.78$, $p < .001$, $\eta^2 = .06$, 90% CI = [.02, .10], which was qualified by the hypothesized norm x objective situation interaction, Wilks' $\lambda = .897$, $F(4, 336) = 4.72$, $p < .001$, $\eta^2 = .05$, 90% CI = [.01, .09].

To further examine the interaction effect, follow-up ANOVAs and simple main effect analyses were conducted for both dependent variables, see Tables S2 and S3. The hypothesized interaction effect was significant for both need threat/fulfillment, $F(2, 169) = 7.20$, $p = .001$, $\eta^2 = .08$, 90% CI = [.01, .10], and hurt, $F(2, 169) = 6.59$, $p = .002$, $\eta^2 = .07$, 90% CI = [.02, .14].

Excluded participants experienced more need fulfillment and less hurt in Passive-Trainerball compared to both Active-Trainerball and Cyberball (all *ps* < .023, *d* = 0.61 – 1.27). As expected, there was no difference with regard to need fulfillment between Active-Trainerball and Cyberball (*p* = .280, *d* = 0.51). However, participants reported experiencing less hurt in Active-Trainerball than in Cyberball (*p* = .013, *d* = 0.59). No effect of the norm was found for the included participants (all *ps* > .354, *d* = 0.02 – 0.71). All means (with standard errors) are depicted in Figure 2.

Additionally, because need threat/fulfillment was measured on a 9-point semantic differential between a negative and a positive pole, we compared the group means against the scale midpoint of 5 (representing neither threat nor fulfillment). Need Fulfillment in the inclusion conditions was significantly above the scale midpoint (all *ps* < .002, *d* = 0.64 – 0.85). In contrast, need fulfillment of excluded participants was significantly below the scale midpoint (both *ps* < .001, *d* = 0.96 – 2.17), with the exception of Passive-Trainerball participants, who did not significantly differ from the scale midpoint (*t* = -.72, *p* = .476, *d* = 0.13).

Discussion

The results from Study 2 extend the results of Study 1. In the condition with an explicit norm that rendered exclusion as acceptable (Passive-Trainerball), need threat and hurt were significantly lower compared to the conditions with a prevailing inclusion norm (explicit in Active-Trainerball and implicit in Cyberball). Notably, need fulfillment of Passive-Trainerball participants was not significantly different from the scale midpoint. One way to look at this evidence is that participants in this condition, on average, did not experience subjective threat despite being objectively excluded.

It should be noted that merely putting participants in the more powerful position of a trainer did not result in less need threat compared to Standard Cyberball. Both need threat and hurt were only significantly lower when being a trainer was coupled with a norm that rendered exclusion acceptable. The findings of Schoel and colleagues (2014) might therefore not only be due to more perceived power and control, but to the social norms that are connected to a position of power.

Study 3

We have shown that social norms can change reflexive reactions to exclusion. Implicit to our argument is the assumption that participants are aware of the prevailing norm and also endorse it. To test this implicit assumption, in Study 3 we used a public goods dilemma game that revolved around a debate between four persons. The norm was either to behave cooperatively (equal division of speaking time; inclusion norm) or competitively (unequal division of time; exclusion norm), which either matched the participant's personal preference or not (norm endorsement yes or no). We hypothesized that the exclusion norm should be particularly effective if it is personally endorsed.

This setup further enabled us to test whether it is in fact social norms, or mere expectations, that moderate reactions to social exclusion. If expectations alone were sufficient to moderate *reflexive* reactions to ostracism, then participants who are excluded due to a competitive norm (and therefore expected the exclusion) should generally experience less need threat than participants who were (surprisingly) excluded in spite of the cooperative norm. However, because we assume that the "should" component of the social norm is essential for situating social exclusion, we expected that only excluded participants who had previously endorsed a general agreement to behave competitively would experience less negative affect and

cognitions compared to participants who either experienced a cooperative norm violation or personally disagreed with a competitive norm.

Method

Participants and design. One hundred and eighty participants (113 females, M_{age} = 21.43, SD = 2.65) were recruited online from different German speaking students' mailing lists and online groups. The design was a quasi-experimental 2 (personal vote: competitive vs. cooperative) x 2 (norm: competitive vs. cooperative) between-participants factorial design. Participants voted for either a competitive (38 participants) or a cooperative agreement (132 participants). Within each vote group, half of the participants were randomly assigned to one of the two norm conditions. Note that all participants were excluded in Study 3.

Materials and procedure. Participants were told to mentally visualize a debate with three other speakers. In order to make the exclusion more realistic and build up an actual expectation of what the others would decide, participants did not know that the other "speakers" were fictional persons. Participants were further told that they would make an agreement with the other speakers about whether speaking time should be distributed cooperatively or competitively. Cooperative behavior meant an equal division of time, namely 15 minutes for each speaker. Competitive behavior meant that every speaker could try to secure a maximum speaking time regardless of the others.

The procedure to reach the agreement was as follows: Participants first voted for their personal preference of whether they wanted the group to act cooperatively or competitively (the personal vote). Next, participants were presented with the other speakers' alleged votes. The resulting agreement (the social norm) was determined by the majority of votes: cooperative (inclusion norm) or competitive (exclusion norm). For half of the participants, the other

speakers' votes matched their own (i.e., all four speakers voted for either a cooperative or a competitive agreement); for the other half, all other speakers voted differently than the participant and so the participant disagreed with the social norm.

After the agreement had been made, participants rated their perceived similarity with the other speakers on three items, e.g., *"Aside from content-related opinions, the other participants and I have similar values,"* (all 9-point Likert scales; 1 = *not at all*; 9 = *very much*; Cronbach's $\alpha = .86$).

Participants were told that a random algorithm would determine the speaking order. All participants then learnt that they were placed last. Subsequently, the fictional debate started and participants were told to imagine it as vividly as possible. In order to make the exclusion situation more real and similar to other exclusion manipulations such as Cyberball, the description of how each speaker defended his or her positions and how much time each speaker took were presented successively. Because the other three speakers each took the maximum time of 20 minutes, participants were not able to contribute (i.e., were excluded). The fact that the participant would be excluded from the debate thus became apparent only during its course.

As dependent variables, need threat/fulfillment (Cronbach's $\alpha = .79$), mood, and hurt ($\rho = .85$) were assessed; see Study 1. Moreover, participants answered three more items about how they construed and evaluated the other speakers' behavior, e.g., *"I do not blame the other speakers for their behavior in the debate"* (all 9-point Likert scales; 1 = *strongly disagree*; 9 = *strongly agree*; Cronbach's $\alpha = .87$).

To assess whether participants understood the manipulation correctly, they were asked how much speaking time had been available to them. Furthermore, participants were asked what

the majority of the speakers had voted for and whether the other speakers' actual behavior corresponded to this agreement.

Results

Manipulation checks. A 2 (personal vote: cooperative vs. competitive) x 2 (norm: cooperative vs. competitive) ANOVA on perceived similarity revealed a significant interaction, $F(1,176) = 59.38$, $p < .001$, $\eta^2 = .25$, 90% CI = [.16, .34]. Participants perceived themselves as more similar to the other speakers when all had voted for the same agreement (all cooperative: $M = 5.70$, $SD = 1.51$, all competitive: $M = 5.95$, $SD = 1.78$) compared to when they had voted for a different agreement (all others cooperative: $M = 4.48$, $SD = 1.56$, all others competitive: $M = 2.98$, $SD = 1.39$). Almost all participants confirmed that less time had been available to them than to the other speakers (99 %) and that they spoke for less than five minutes (100 %). Moreover, 98 % correctly recalled the general agreement and 99 % recalled whether the other speakers had abided by it or not[1].

Dependent variables. Because of the unequal group distribution, we first tested for variance homogeneity of the dependent variables.[2] A (personal vote: cooperative vs. competitive) x 2 (norm: cooperative vs. competitive) MANOVA on need threat/fulfillment, mood, hurt, and evaluation of the other speakers' behavior revealed a significant main effect of the norm, $F(4,173) = 10.92$, $p < .001$, $\eta^2 = .20$, 90% CI = [.11, .27], and of personal vote, $F(4,173) = 8.08$, $p < .001$, $\eta^2 = .16$, 90% CI = [.07, .22]. Most important, the hypothesized interaction was significant, $F(4,173) = 4.44$, $p = .002$, $\eta^2 = .09$, 90% CI = [.02, .15]. To further examine the interaction effect, follow-up ANOVAs and simple main effect analyses were conducted for each of the dependent variables. The hypothesized interaction effect was significant for every dependent variable, except for mood (see Table 2). Simple main effect

analyses showed that participants in the competitive norm condition experienced less negative affect and cognitions when they had previously endorsed the competitive compared to the cooperative norm (all *ps* < .019, η^2 = .03 - .21). All means (with standard errors) are depicted in Figure 3, see Table S4 for the simple main effect analyses. There was no significant difference regarding the personal vote when the norm had been cooperative (all *ps* > .320, η^2 = .00 - .01)

Mediation via construal. We tested two mediated moderation models as described in Study 1, with the Norm x Personal Vote interaction as the predictor, construal of the other speakers' behavior as the mediator, and need fulfillment or hurt, respectively, as the dependent variable. Both mediation analyses yielded significant indirect effects (for need fulfillment: indirect effect = .75, bootstrapped 95% CI = [.32, 1.27]; for hurt: indirect effect = - 1.96, bootstrapped 95% CI = [-3.05, -.91]).

Discussion

Study 3 demonstrated that the effect of a given social norm on the exclusion experience depends on whether the excluded individual endorses this norm. Participants who had previously endorsed a competitive norm experienced less negative affect and cognitions compared to participants in all other conditions. The present results suggest that two things need to work in tandem to diminish the negative effects of exclusion: a strong social norm, which renders exclusion acceptable, and endorsement of the norm by the excluded individual.

For mood, the pattern of results fits our hypothesis but was not significant. Possibly, having no speaking time at all in an important debate is highly disappointing and therefore resulted in a negative mood across conditions (*M* = 2.52, *SD* = 1.66, on a 9-point scale).

Study 3 further demonstrates that an expected exclusion (the competitive norm condition) can hurt just as much as an unexpected exclusion. From a norm perspective, this is not

surprising: If expectation alone was sufficient to diminish the pain of social exclusion, long-time ostracism and the silent treatment punishment should be less efficient because individuals would expect to be excluded. Still, research has shown that these treatments are highly efficient and hurtful to victims (Williams, 2009). Expectation may therefore be necessary but not sufficient; against the background of the presented evidence, we suggest that the "should" component of a norm is essential for how objective exclusion is cognitively construed.

Study 3 did not have an inclusion group. This choice was motivated by our interest in the interplay between personal and social norms. Nevertheless, an inclusion group might have been advantageous to test whether excluded participants felt excluded. While we cannot offer a comparison between exclusion and inclusion within Study 3, it is interesting that the means of need fulfillment and hurt in Study 3 are comparable to those in the exclusion groups of Studies 1 and 2. Moreover, almost all participants correctly identified that they had received less time than other participants. Hence, it would seem that exclusion was successfully manipulated.

Study 4

Studies 1–3 provide evidence for the hypothesized role of social norms in construing social exclusion. However, in all studies, the norm was experimentally manipulated and might not be as strong as deeply rooted social norms in real life. With the goal to investigate a highly internalized norm, which participants either strongly endorse or not, Study 4 investigated exclusion from an online political debate due to gender quotas. Gender quotas are subject to heated debates in Germany, with left-wing parties arguing for and conservative as well as liberal parties (here referred to as right-wing parties) arguing against quotas. We expected that compared to being included, right-wing participants would feel threatened by being excluded because of a gender quota. This is because the quota violates their party's norm. In contrast, we

expected left-wing participants to feel less threatened when being excluded by a gender quota, since the exclusion is in line with their party's norm.

Method

Participants and design. Seventy-three members of the political left-wing camp (Bündnis 90/Die Grünen: 43, SPD: 26, and Die Linke: 4), and 65 members of the right-wing camp (FDP: 22, CDU/CSU: 40 and AfD: 3) were recruited as participants (37 females, M_{age} = 23.77, SD = 3.74) through different mailing lists and online groups.

The design of the study was a quasi-experimental 2 (political camp: left-wing vs. right-wing) x 2 (objective situation: exclusion vs. inclusion) between-participants factorial design. We opted for an equal distribution of male and female participants into the different conditions.

Materials and procedure. Participants first answered 18 knowledge questions about the German political system (based on Epple, Fischer, Waag, & Wagener, 2013) and received feedback about the number of correct responses. The questions were relatively easy so that all participants scored highly (M = 17.09, SD = 1.78). Next, participants were told that performance-wise, they had qualified for participation in a subsequent political online debate. All participants learned that, currently, more contributions to the online discussion had been written by individuals whose gender matched the participants' gender (62 %). However, participants in the inclusion condition were told that they could participate anyway. Participants in the exclusion condition were told they could not participate in the discussion because of the gender distribution.

As dependent variables, need threat/fulfillment (4 items, Cronbach's α = .79) and mood (1 item) were assessed; see Study 3. Moreover, participants answered three items about their attitude towards gender quotas, e.g., *"I think that gender quotas generally make sense"* (all 9-

point Likert scales; 1 = *strongly disagree*; 9 = *strongly agree*; Cronbach's α = .98). Finally, participants were asked what they had been told after the knowledge test and whether the majority of contributors to the online discussion had been male or female.

Results

Manipulation checks. Of all participants, 96 % correctly recalled that there had been more contributions of the opposite gender in the online debate, and 93% whether and why they were (not) allowed to participate in the online discussion. Left-wing participants reported significantly more approval of gender quotas than right-wing participants, $F(1, 134) = 131.96$, $p < .001$, $\eta^2 = .50$, 90% CI = [.40, .57], ($M = 6.73$, $SD = 2.57$, $M = 2.37$ $SD = 1.78$; respectively). Neither the effect of exclusion nor the interaction were significant (both *ps* > .136, $\eta^2 = .00$ - .02).

Dependent variables. Since the study focuses on gender quotas, we entered gender as a third fixed factor into the analyses. Overall, women reported more need fulfillment than men, $F(1, 130) = 4.96$, $p = .028$, $\eta^2 = .04$, 90% CI = [.00, .10], ($M = 4.68$, $SD = 1.77$; $M = 4.10$, $SD = 1.60$, respectively). Aside from this main effect, gender interacted with none of the independent variables and was therefore dropped from further analyses.

Regarding need fulfillment, there was a significant main effect of the political camp, $F(1,134) = 23.26$, $p < .001$, $\eta^2 = .15$, 90% CI = [.07, .24]. Left-wing participants experienced more need fulfillment than right-wing participants ($M = 4.84$, $SD = 1.50$; $M = 3.60$, $SD = 1.56$, respectively). Moreover, there was a main effect of the objective situation, $F(1,134) = 8.18$, $p = .005$, $\eta^2 = .06$, 90% CI = [.01, .13], which was qualified by the hypothesized interaction, $F(1,134) = 3.40$, $p = .067$, $\eta^2 = .03$, 90% CI = [.00, .08]. Simple main effects analysis showed that for left-wing participants, there was no significant difference between inclusion and exclusion, $F < 1$, $p = .461$, $\eta^2 = .00$. In contrast, right-wing participants experienced significantly more need

fulfillment when they were included compared to excluded, $F(1, 134) = 10.49$, $p = .002$, $\eta^2 = .07$. Finally, both included and excluded left-wing participants experienced significantly more need fulfillment than right-wing participants, both *ps* < .036, $\eta^2 = .03$ - .15.

For mood, there was a significant main effect of the political camp, $F(1,134) = 21.48$, $p < .001$, $\eta^2 = .14$, 95% CI = [.06, .23]. Left-wing participants generally felt better than right-wing participants ($M = 5.51$ $SD = 1.89$; $M = 4.05$, $SD = 1.77$, respectively). There was neither a significant main effect of the objective situation on mood nor a significant interaction, all *ps* > .185, $\eta^2 = .00$ - .01. However, the observed pattern of results matches the one observed for need fulfillment. All means (with standard errors) are depicted in Figure 4, see Table S5 for the simple main effect analyses

Discussion

In Study 4, we investigated social exclusion due to a preexisting, internalized norm of the participant's political party, namely the desirability of gender quotas. Results show that left-wing participants who were excluded from an online discussion because of a norm-consistent gender quota experienced neither a decrease in need fulfillment nor mood compared to being included. Right-wing participants, in contrast, reported a lower degree of need fulfillment when they were excluded compared to included. For mood, we observed a similar pattern of results.

On the conceptual level, the results suggest that the typical negative reflexive effects of social exclusion are less likely to show in the presence of a sufficiently strong prevailing norm that (a) renders exclusion as acceptable and (b) one identifies with. In fact, exclusion due to a norm that is highly central to the self may even reinforce individuals' values and make them experience a high sense of belonging to the respective group (Gómez, Morales, Hart, Vázquez, & Swann, 2011; Pfundmair, Aydin, Frey, & Echterhoff, 2014; Pfundmair, Graupmann, Frey, &

Aydin, 2015; Ren, Wesselmann, & Williams, 2013). Since all participants realized that they were objectively excluded nevertheless, this again stresses our main prediction that reactions to objective exclusion can differ greatly, depending on one's social construal of the respective exclusion situation.

General Discussion

Research has accentuated the potential evolutionary advantage of a quick reflexive reaction to social exclusion (Williams, 2009). Though early theorizing argued that reflexive reactions to ostracism are invariable, more recent thinking and evidence suggests that reflexive reactions are mutable and subject to moderation. Indeed, social cognition research holds that social situations are subjectively construed. Bringing this situated social cognition perspective (Smith & Semin, 2004) to ostracism research, we advance an important conceptual extension to the temporal need threat model. We argue that the degree of threat and hurt an individual will experience when facing an objective exclusion depends on how the incident is cognitively construed. We further introduce social norms as a prominent moderator that guides these construals. Norms presumably act as an important framework that helps individuals distinguish between objective exclusion situations that more or less threaten one's inclusionary status. Four studies empirically support these conjectures and show that (a) being objectively excluded hurts less when exclusion is norm-consistent, (b) norms are more effective when personally endorsed, and (c) the effect of norms is mediated by cognitive construal.

Methodology

At least three methodological aspects of the present contribution deserve short mention: First, post-hoc tests showed that the desired power of ≥ .90 was obtained for almost all hypothesized interactions in the multivariate analyses, except for Study 4 (power = .42; here the

intended sample could not fully be reached due to its specificity, i.e., political party members). Second, the hypothesized effect of social norms on reflexive reactions shows clearly and consistently in all four studies. Importantly, in all studies, participants understood that they were objectively excluded, regardless of the norm manipulations. Third, aside from demonstrating the effect in established paradigms such as Cyberball, we created new paradigms suitable for manipulating social exclusion (Studies 3 and 4), as well as more abstract scales that can assess the effects of social exclusion in a variety of paradigms. As a potential caveat, it should be noted that the paradigm used in Study 3 contains hypothetical elements, such that the participants did not participate in an actual discussion but imagined it. However, research has repeatedly demonstrated that participants experience social exclusion even in very abstract and imaginative tasks (Bernstein & Claypool, 2012; Zadro, et al., 2004). In fact, even Cyberball is presented as a "mental visualization exercise" (Williams, 2009) and thus inherently imaginative. Against this background, we believe that reflexive reactions can also be documented in hypothetical settings as those chosen here.

Integration with the Temporal Need-Threat Model of Ostracism

At first glance, the reported results appear to be inconsistent with the TNTM's assumption of an automatic response to social exclusion (Williams, 2007a, 2009). We believe that the two perspectives integrate very well, though, if "automatic" is understood in the sense of a "default," resulting from the fundamental need to belong. However, norms other than the default may be applicable, accessible, and perhaps salient, and when such a norm portrays objective exclusion as acceptable, individuals will perceive the situation as less threatening.

Still, one might argue that the present findings do not integrate very well with earlier findings that showed reflexive reactions to be unmoderated (see Williams, 2009). However, we

contend that a situated perspective is the first to allow understanding of these perhaps surprising earlier results: If the norm implicit to most social exclusion paradigms is one of inclusion (think of equal share in Cyberball), being excluded violates the norm and thus hurts. Hence, findings suggesting that being excluded in Cyberball always hurts may potentially result from a specific set of norms present in these games. Note that this insight does not diminish the importance or value of these earlier results, as norm-violation and objective exclusion may go together more often than not.

By the same token, a situated perspective on the TNTM allows for theoretically derived predictions regarding moderation during the reflexive stage, which were not possible before. With a necessary note of caution, it is interesting to take a look at earlier evidence of moderation from a norm perspective. For instance, moderation via differences in power (Schoel, et al., 2014) might additionally be due to differences in norms applying to more or less powerful people. In support of this account, Study 2 in the present manuscript suggests that changes in the prevailing norm affect the extent to which participants in powerful roles feel threatened and hurt when being excluded. Relatedly, Pfundmair and colleagues (2015) showed that collectivists experience less reflexive need satisfaction than individualists and that this effect was mediated by perceptions of threat. Converging with our assumptions, the authors speculate that their findings might be "potentially mediated by cultural norms" (p. 10). More generally, we contend that social norms are particularly important in situations in which a moderator affects either the understanding or the construal of the prevailing norm, and that a social situated perspective on social exclusion may allow for building a comprehensive framework.

Social exclusion: Flame or Boogeyman?

Williams (2007b) compared social exclusion to touching a flame: it always hurts. We suggest that the exclusion detection system can be understood as a more fine-tuned process that does not detect social exclusion in general, but rather possible norm violations affecting one's inclusionary status. Therefore we suggest that social exclusion is less like a flame, but instead better described as something shadowy in the corner of a room: If one interprets this shadow to be the Boogeyman, one will invariably feel threatened and react with fear. However, if one interprets the shadow to be a coat stand, experiences of threat and fear are likely to be less pronounced. In the same way, we suggest that individuals approach a situation with a normative frame about whether they should be excluded or included in the ongoing events.

Based on our current findings, we are confident to say that norm-consistent exclusion causes *less* reflexive pain reactions than its norm-violating counterpart. But if norm consistency can attenuate the pain associated with social exclusion, would it be possible for an exclusion experience to not hurt *at all*? Our present results are mixed in that regard: While there were no significant differences between norm-consistent exclusion and inclusion groups regarding hurt in Studies 1 and 2, differences in need fulfillment remained (even though in Study 2, need fulfillment in the exclusion norm condition did not differ from the scale midpoint of the semantic differential, which might suggest that participants in this condition did not experience threat). In Study 4, individuals who endorsed the social exclusion norm (i.e., left-wing party members) experienced the same amount of need fulfillment regardless of whether they were excluded or included.

We assume that from a theoretical standpoint, it is possible to identify situations in which social exclusion does not elicit reflexive pain at all. Such cases would most likely be characterized by an unambiguous and highly endorsed prevailing social norm as well as a

situation that leaves little room for alternative interpretations. Study 4 might represent such an example of an unambiguous situation (at least for left-wing participants). In contrast, experimentally manipulated social norms may not be able to completely overpower deeply rooted implicit norms, such as the norm of an equal share of throws in Cyberball. Moreover, in many situations in the laboratory as well as in real life, the prevailing norm may be unclear, the individual might at least partially disagree with the norm, or there may be more than one cognitive construal of the situation that is accessible. In that case, individuals might go with their default reaction and interpret the situation at least to some degree as threatening to be on the safe side. In terms of our "Boogeyman Analogy," it is more likely that a coat stand would be mistaken for the Boogeyman than the Boogeyman for a coat stand. Future research could investigate the exact conditions under which norm-consistent exclusion results in no pain or merely less pain.

Implications beyond Objective Exclusion Situations

We wish to close by changing the perspective to episodes of mistaken or involuntary ostracism. While in many social situations there should be an understanding about the appropriate behavior, misunderstandings are possible if people differ in their understanding of the prevailing situational norms. Taking that idea further, it might be possible to prevent individuals from suffering from cases of involuntary ostracism by highlighting the prevailing norm or teaching individuals new norms, such as Walton and Cohen (2011) did in a brief intervention study with freshmen students of African American heritage. By pointing their participants to the fact that experiencing social insecurity during one's first year is normal and not to be interpreted as discrimination or ethnic deficit, they provided them with a less threatening frame for interpreting social challenges at college. As a result of the intervention,

students were more confident, less concerned about being excluded, and acted accordingly (e.g., by initiating more relationships).

Both this study and our own work highlight the importance of social construal. The present findings situate social exclusion and highlight the importance of understanding how individuals subjectively construe the situation they are in. We believe that further research on both causes as well as cures to social exclusion will highly benefit from adapting such a situated view.

References

Aarts, H., & Dijksterhuis, A. (2003). The silence of the library: Environment, situational norm, and social behavior. *Journal of Personality and Social Psychology, 84*(1), 18 - 28.

Alexander, C. N., Jr., & Gordon, W. K. (1971). Situated identities and social psychological experimentation. *Sociometry, 34*(1), 65-82.

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., 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.

Bernstein, 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.

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.

Bolling, D. Z., Pitskel, N. B., Deen, B., Crowley, M. J., McPartland, J. C., Mayes, L. C., & Pelphrey, K. A. (2011). Dissociable brain mechanisms for processing social exclusion and rule violation. *NeuroImage, 54*(3), 2462-2471.

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The Handbook of Social Psychology* (4th ed., Vol. 1, 2, pp. 151-192). New York, NY: McGraw-Hill.

Eck, J., Schoel, C., & Greifeneder, R. (in press). Coping with or buffering against the negative impact of social exclusion on basic needs: A review of strategies. In P. Riva & J. Eck (Eds.), *Social exclusion: Psychological approaches to understanding and reducing its impact* (pp. XX-XX). New York, NY: Springer.

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*(5643), 290-292.

Epple, S., Fischer, M. A., Waag, A.-S., & Wagener, D. (2013). *Wissenstest zum Deutschen Wahlsystem (WTDW)*. Unpublished manuscript, Department of Psychology, University of Mannheim, Germany.

Faul, F., Erdfelder, 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.

Fayant, M.-P., Muller, D., Hartgerink, C. H. J., & Lantian, A. (2014). Is ostracism by a despised outgroup really hurtful? A replication and extension of Gonsalkorale and Williams (2007). *Social Psychology, 45*(6), 489-494.

Gibbs, J. P. (1965). Norms: The problem of definition and classification. *American Journal of Sociology, 70*(5), 586-594.

Gómez, A., Morales, J. F., Hart, S., Vázquez, A., & Swann, W. B. (2011). Rejected and excluded forevermore, but even more devoted: Irrevocable ostracism intensifies loyalty to the

group among identity-fused persons. *Personality and Social Psychology Bulletin, 37*(12), 1574-1586.

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, 37*(6), 1176-1186.

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.

Hartgerink, C. H., 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), e0127002.

Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology, 78*(1), 81-91.

Hayes, A. F. (2013). *Introduction to mediation, moderation and conditional process analysis.* New York, NY: Guilford.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. H. A. W. Kruglanski (Ed.), *Social Psychology: Handbook of Basic Principles* (pp. 133–168). New York: Guilford Press.

Kawamoto, T., Onoda, K., Nakashima, K., Nittono, H., Yamaguchi, S., & Ura, M. (2012). Is dorsal anterior cingulate cortex activation in response to social exclusion due to expectancy violation? An fMRI study. *Frontiers in Evolutionary Neuroscience, 4*(11).

Krill, A., & Platek, S. M. (2009). In-group and out-group membership mediates anterior cingulate activation to social exclusion. *Frontiers in Evolutionary Neuroscience, 1*(1).

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*(3), 518-530.

Lelieveld, G.-J., Gunther Moor, B., Crone, E. A., Karremans, J. C., & van Beest, I. (2013). A penny for your pain? The financial compensation of social pain after exclusion. *Social Psychological and Personality Science, 4*(2).

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.

Petty, R. E., Fabrigar, L. R., Wegener, D. T., & Priester, J. R. (1996). Understanding data when interactions are present or hypothesized. *Psychological Science, 7*(4), 247-252.

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.

Pfundmair, M., Aydin, N., Frey, D., & Echterhoff, G. (2014). The interplay of oxytocin and collectivistic orientation shields against negative effects of ostracism. *Journal of Experimental Social Psychology, 55*, 246-251.

Pfundmair, M., Graupmann, V., Frey, D., & Aydin, N. (2015). The different behavioral intentions of collectivists and individualists in response to social exclusion. *Personality and Social Psychology Bulletin, 41*(3), 363-378

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.

Romero-Canyas, R., & Downey, G. (2005). Rejection sensitivity as a predictor of affective and behavioral responses to interpersonal stress. In K. D. Williams, J. P. Forgas & W. von Hippel (Eds.), *The Social Outcast: Ostracism, social exclusion, rejection, and bullying*. New York, NY: Psychology Press.

Rosenthal, R., & Rosnow, R. L. (1985). *Contrast analysis: Focused comparisons in the analysis of variance*. New York, NY: Cambridge University Press.

Schoel, C., Eck, J., & Greifeneder, R. (2014). A matter of vertical position: Consequences of ostracism differ for those above versus below its perpetrators. *Social Psychological and Personality Science, 5*(2), 149-157

Smith, E. R., & Semin, G. R. (2004). Socially situated cognition: Cognition in its social context. *Advances in Experimental Social Psychology, 36*, 53-117.

Smith, E. R., & Semin, G. R. (2007). Situated social cognition. *Current Directions in Psychological Science, 16*(3), 132-135.

Tuscherer, T., Sacco, D. F., Wirth, J. H., Claypool, H. M., Hugenberg, K., & Wesselmann, E. D. (2015). Responses to exclusion are moderated by its perceived fairness. *European Journal of Social Psychology*.

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.

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.

Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science, 331*(6023), 1447-1451.

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.

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.

Williams, K. D. (2007a). Ostracism. *Annual Review of Psychology, 58*(1), 425-452.

Williams, K. D. (2007b). Ostracism: The kiss of social death. *Social and Personality Psychology Compass, 1*(1), 236-247.

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In P. Z. Mark (Ed.), *Advances in Experimental Social Psychology* (Vol. 41, pp. 275-314). San Diego, CA: Elsevier Academic Press.

Williams, K. D., Cheung, C. K., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*(5), 748-762.

Wirth, J. H., Bernstein, M. J., Wesselmann, E. D., & LeRoy, A. S. (2015). Social cues establish expectations of rejection and affect the response to being rejected. *Group Processes & Intergroup Relations*.

Wirth, J. H., Lynam, D. R., & Williams, K. D. (2010). When social pain is not automatic: Personality disorder traits buffer ostracism's immediate negative impact. *Journal of Research in Personality, 44*(3), 397-401.

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.

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.

Footnotes

[1] For Study 1 as well as for the subsequent studies, we ran all analyses again without participants who failed to answer all manipulation checks correctly. Neither the result patterns nor the levels of significance changed (except for one interaction in Study 4).

[2] For need fulfillment, variances were heterogeneous, $F(3, 176) = 2.82$, $p = .040$. We therefore specified a planned contrast (Rosenthal & Rosnow, 1985) testing the competitive/competitive condition against all other conditions and correcting for unequal variances, which was significant, $t(21.04) = 2.23$, $p = .037$, $d = 0.54$. Other possible contrasts were not significant, all $ps > .064$, $d = 0.18$ - 0.30, (see Petty, Fabrigar, Wegener, & Priester, 1996).

Table 1

Results of four Analyses of Variance of the Dependent Variables in Study 1

Dependent Variable	Independent Variable	$F(1, 85)$	η_p^2	90% CI
Cognitive Construal	Objective Situation (Exclusion vs. Inclusion)	82.88***	.49	[.37, .59]
	Social Norm	6.84*	.07	[.01, .17]
	Objective Situation x Social Norm	23.11***	.22	[.10, .33]
Need Fulfillment	Objective Situation	103.50***	.55	[.43, .63]
	Social Norm	.14	.00	[.00, .04]
	Objective Situation x Social Norm	23.00***	.21	[.10, .33]
Need Threat	Objective Situation	105.41***	.55	[.43, .64]
	Social Norm	3.47	.04	[.00, .12]
	Objective Situation x Social Norm	6.11*	.07	[.01, .16]
Hurt	Objective Situation	43.49***	.34	[.20, .45]
	Social Norm	11.77**	.12	[.03, .23]
	Objective Situation x Social Norm	14.56***	.15	[.05, .26]

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

Table 2

Results of four Analyses of Variance of the Dependent Variables in Study 3

Dependent Variable	Independent Variable	$F(1, 176)$	η_p^2	90% CI
Need Threat/ Fulfillment	Personal Vote	2.90	.02	[.00, .06]
	Social Norm	4.30*	.02	[.00, .14]
	Personal Vote x Social Norm	4.56*	.03	[.00, .14]
Mood	Personal Vote	1.99	.01	[.00, .15]
	Social Norm	.45	.00	[.00, .03]
	Personal Vote x Social Norm	2.06	.01	[.00, .05]
Hurt	Personal Vote	12.21**	.06	[.04, .24]
	Social Norm	11.50**	.06	[.03, .23]
	Personal Vote x Social Norm	8.35**	.05	[.02, .19]
Evaluation of the other speakers	Personal Vote	31.18***	.15	[.14, .38]
	Social Norm	40.81***	.19	[.19, .44]
	Personal Vote x Social Norm	17.55***	.09	[.06, .29]

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

Figure 1 a - d

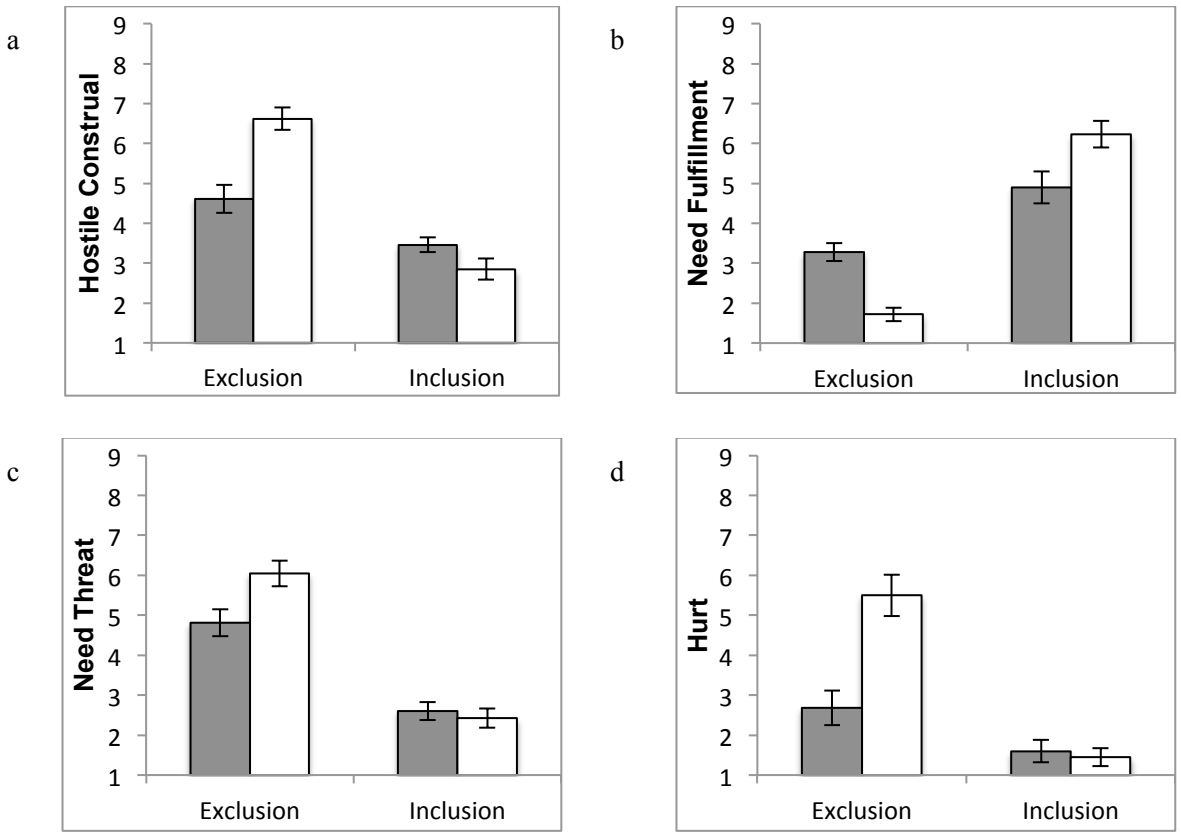

Figure 1 a -d. Mean levels of the dependent variables (with standard errors) as a function of the objective situation (exclusion; inclusion) in Study 1. Dislikeball (the exclusion norm condition) is displayed as gray bars; Cyberball (inclusion norm condition) is displayed as white bars.

a: Cognitive construal of the other players' actions. Higher values reflect a more hostile construal of the other players' actions.

b: Need fulfillment. Higher values reflect more need fulfillment.

c: Need threat. Higher values reflect more threat.

d: Hurt. Higher values reflect more hurt.

Figure 2 a - b

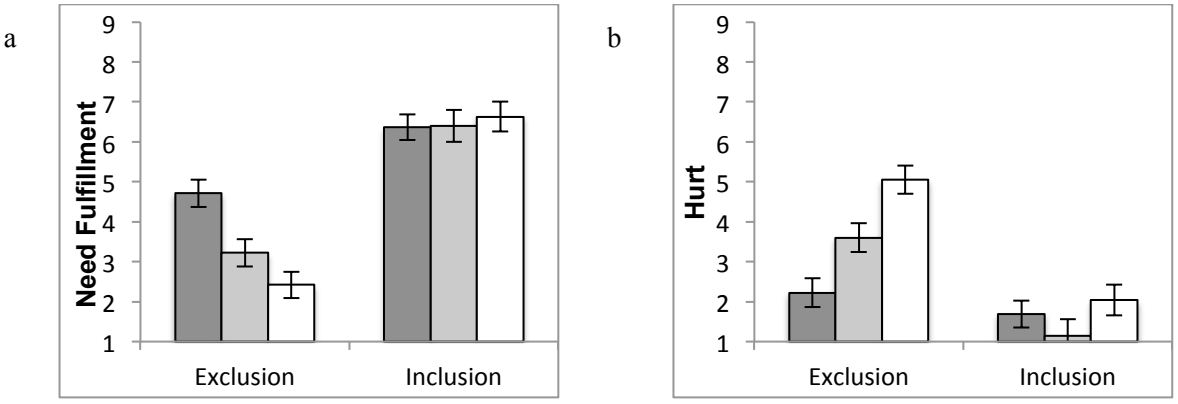

Figure 2 a -b. Mean levels of the dependent variables (with standard errors) as a function of the objective situation (exclusion; inclusion) in Study 2. Passive-Trainerball (explicit exclusion norm condition) is displayed as dark gray bars; Active-Trainerball (explicit inclusion norm condition) as light gray bars and Cyberball (implicit inclusion norm condition) is displayed as white bars.

a: Need fulfillment. Higher values reflect more need fulfillment.

b: Hurt. Higher values reflect more hurt.

Figure 3 a – d

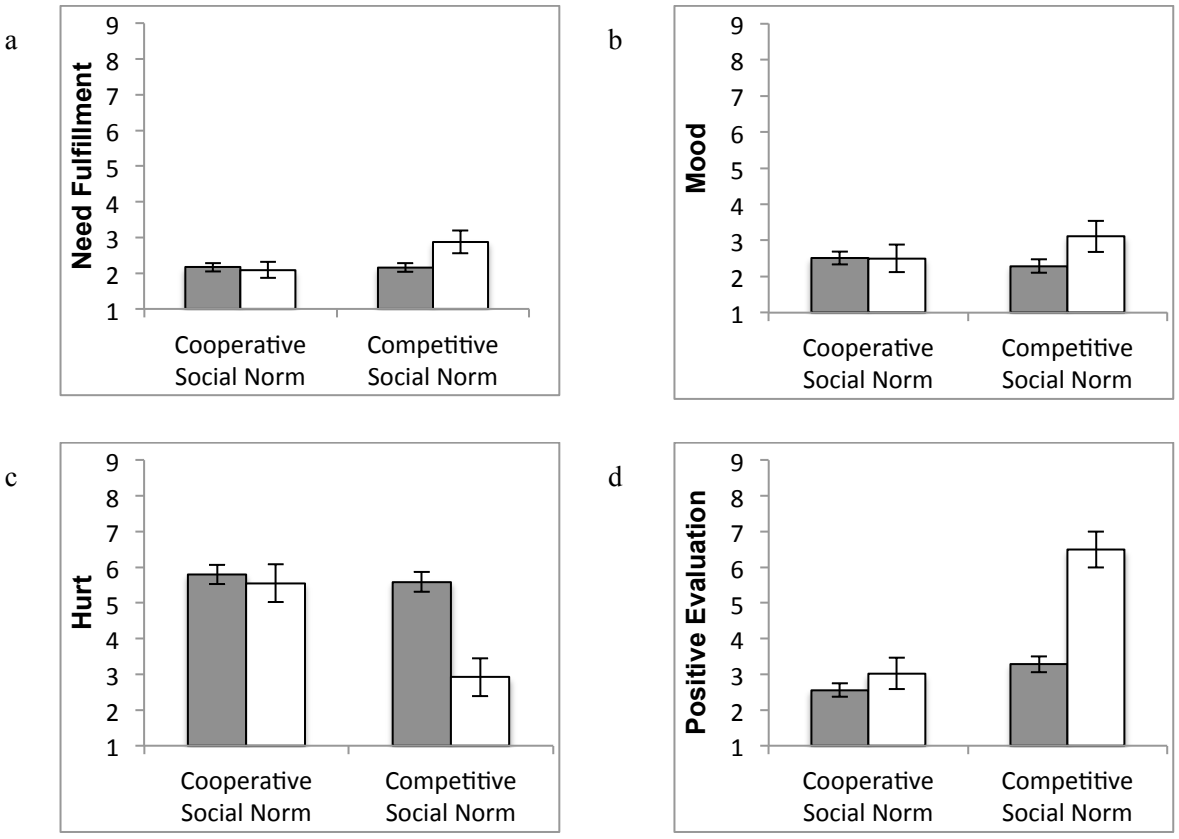

Figure 3 a -d. Mean levels of the dependent variables (with standard errors) as a function of social norm (competitive; cooperative) in Study 3. Conditions in which participants endorsed a cooperative agreement are displayed as gray bars; conditions in which participants endorsed a competitive agreement are displayed as white bars. Note that all participants were objectively excluded in Experiment 3.

a: Need fulfillment. Higher values reflect more need fulfillment.

b: Mood. Higher values reflect more positive mood.

c: Hurt. Higher values reflect more hurt.

d: Evaluation of the other speakers' behavior. Higher values reflect more positive evaluation.

Figure 4 a – b

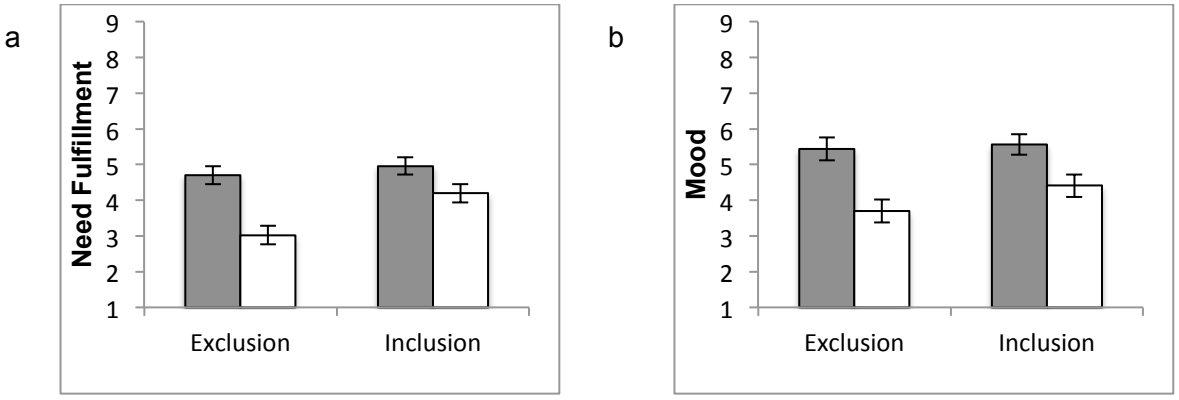

Figure 4 a and b. Mean levels of the dependent variables (with standard errors) as a function of the objective situation (exclusion; inclusion) in Study 4. Members of a left-wing political party are displayed as gray bars; members of a right-wing political party are displayed as white bars.

a: Need fulfillment. Higher values reflect more need fulfillment.

b: Mood. Higher values reflect more positive mood.

Under threat by popular vote: Naturalistic exclusionary threat due to the Swiss vote against mass immigration

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Abstract:

A popular initiative in support of regulating future immigration to Switzerland was accepted by the electorate in 2014. We hypothesized that the initiative acted as a threat that evoked feelings associated with exclusion and rejection for current immigrants of Switzerland. To investigate, we conducted an online survey among a sample of German-speaking immigrants. Immigrants reported feelings of hurt and need threat as a result of the vote. Moreover, having a more left-wing orientation, living in a political constituency that had voted pro-regulation and having proportionally few Swiss friends positively predicted need threat, hurt, and negative mood. These negative affective reactions were associated with a reported negative change in one's attitudes towards Switzerland, increased considerations to leave the country, and impaired satisfaction with life. In sum, the results suggest that a national vote can act as a powerful exclusionary threat, causing distress to immigrants currently living in the country.

Keywords:

Social exclusion, ostracism, popular vote, Switzerland, immigration

On February 9th, 2014, the Swiss popular initiative "Against mass immigration" was put to the vote and accepted by the electorate. Popular initiatives are a means of direct democracy in Switzerland and allow the Swiss people to suggest or change laws directly via nation-wide votes. The aim of this particular initiative was to limit immigration to Switzerland through quotas and thereby restrict the number of immigrants moving to Switzerland each year [1]. The initiative was strongly debated, but eventually accepted by a narrow majority of the electorate (50.3 percent) and of the cantons (member states of the federal state of Switzerland; 17 out of 26; [2]), which is necessary for a nation-wide initiative to succeed (for more details on Swiss direct democracy and popular votes, see [3]).

Here we suggest that such a national vote can act as an exclusionary threat and investigate the distress and threat that immigrants experienced as a result of the vote. In the present study, we focus on German-speaking immigrants, which represent one of Switzerland's largest immigrant groups [4, 5]. Moreover, while the initiative aims for the regulation of future immigration, we investigate its effects on current immigrants who already live in Switzerland but do not have Swiss citizenship (24.3 percent of Switzerland's total population in 2014; [6]). This group is especially interesting because the result of the vote neither directly forces them to leave the country, nor does it cause any other immediate, objective disadvantages. Therefore, any negative consequences following the vote must be the result of more subjective thoughts and feelings resulting from the vote. For instance, immigrants might feel less welcome in the country, be worried about dependents and friends, or about not getting a future renewal of their residence permit. Going beyond the individual level, immigrants might even experience vicarious ostracism due to identifying with the group of (German) immigrants as a whole and, thus, experience a threat against their ingroup [7-10].

A strong amount of research in social as well as political sciences has focused on why immigrants are excluded and discriminated against in societies (e.g., [11-14], see also [15]) and how structural variables or long-term discrimination affects immigrants' well-being (e.g., [16-20]). Common to these lines of research is that social exclusion is understood as a general social disadvantage of immigrants over a long period of time [15]. Here we take a different perspective and focus on how immigrants experienced a singular exclusionary act, namely a popular vote of their host society. This perspective is inspired by research on social exclusion and ostracism, particularly by the temporal need-threat model of ostracism [21], which we further elaborate next.

Social exclusion in the laboratory

The temporal need-threat model (TNTM) of ostracism proposes that individuals are highly sensitive to the smallest threats of being excluded, rejected, or devalued by other humans, which has repeatedly been demonstrated in laboratory research on social exclusion (e.g., [22-24]). This sensitivity is rooted in humankind's fundamental need to belong [25] and the vital necessity to become a member of cooperative social networks and groups. To avoid exclusion, humans have therefore developed a functional system that is able to detect even the slightest hints of rejection or exclusion [26, 27]. Correspondingly, several laboratory studies have demonstrated that even minimal exclusionary threats, such as not receiving a ball in a virtual ball-throwing game, cause strong feelings of pain, decrease mood and threaten the four fundamental needs of belongingness, self-esteem, control, and meaningful existence [21, 28-31]. In the TNTM, this immediate negative reaction to exclusionary threat is termed the *reflexive stage*. Reflexive reactions have been shown to be very strong and robust across a variety of personality or situational characteristics, such as whether individuals were excluded by ingroup

or outgroup members [22, 23, 29], were socially anxious or not [32], or benefitted financially from being excluded [33].

Following the reflexive stage, individuals enter the *reflective stage*, in which they typically engage in behaviors aimed at restoring their needs, such as seeking for new connections [34] as well as distancing themselves from or even aggressing against the people who excluded them [35, 36]. Finally, if social exclusion is not resolved, individuals enter the so-called *resignation stage*. Here, impaired social connectedness which results from social exclusion has been connected to depression as well as general decreases in life satisfaction [21, 37, 38].

Popular votes as exclusionary threats

To the present date, research on social exclusion, ostracism and the TNTM has been conducted mainly in the laboratory, focusing on interactions in small groups with clearly identifiable perpetrators and rather ambiguous situations [21]. However, in real life, exclusionary threats can occur in larger contexts as well: In fact, the term "ostracism" derives originally from the Greek practice of *ostrakismos*, which describes a popular vote in ancient Greece, by which a citizen would be expelled from the city of Athens for ten years [39]. In this tradition, we suggest that a popular vote on immigration regulation represents a real-life exclusionary threat, which is characterized by several specific aspects:

First, in the case of a popular vote, an individual is not threatened with exclusion because of some personal flaws, but because she or he possesses a specific group membership, namely a foreign citizenship [8, 40]. This qualification does not soften the blow of social exclusion, though: Individuals' emotional experience is strongly dependent on the group that they identify with [41, 42] and thus, exclusion because of group membership can even intensify experienced threat if this membership is permanent [8]. While immigrant status can change in theory, the

acquisition of Swiss citizenship often depends at least partly on a subjective evaluation and its outcome is uncertain [43]. As a result, even second- or third generation immigrants might not be granted citizenship.

Second, a popular vote is a nation-wide political event with abstract perpetrators (i.e., an unidentified majority). The vote transforms this majority's feelings, preferences, and implicit attitudes into hard numbers [44], so that immigrants receive statistically unambiguous feedback on how well they are accepted in the respective country. Accordingly, it is likely that current immigrants would perceive the result of the Swiss vote as a signal of not being welcome by the Swiss people and thus not accepted as a part of society (that is, being excluded).

Third, a vote on immigration regulation will eventually be transformed into a law. Even though the result does not expel current immigrants from Switzerland, the vote might have objective consequences on future immigrants, such that their residency or working requests might be rejected. Moreover, driven by the success of the vote, other initiatives might form that may also aim to restrict current immigrants' rights and may be even harsher (as was recently the case in Switzerland, see the initiative "For the effective expulsion of foreign criminals" in 2016). The resulting uncertainty about what the results of the vote mean might add to the experience of exclusionary threat for current immigrants.

Based on these considerations, the TNTM, and laboratory research on social exclusion [21], we derived predictions about how immigrants are affected by the Swiss vote against mass immigration.

Immediate affective reactions to the vote: Hurt, threat, and negative mood

In line with the TNTM [21], we assumed that immigrants would report having experienced an immediate negative affective reaction as a result of the vote, similar to negative

reactions that occur immediately when being excluded in the laboratory (the so-called "reflexive stage"). More specifically, we assumed that immigrants had experienced feelings of hurt, negative mood, and threat to their fundamental needs of belonging, self-esteem, control, and meaningful existence when they had first heard about the results of the vote.

Resilience / Vulnerability factors: Political Orientation and Social Support

The TNTM assumes that the first negative reaction in the reflexive stage is relatively robust. However, research shows that despite their strong sensitivity for exclusionary threats, individuals do not react to all experiences of social exclusion in the same way (e.g., [45, 46], for an overview see [21]). The subjectivity of social exclusion experiences has especially been emphasized in more recent extensions of the TNTM [47] regarding the importance of socially situated cognitions, that is, how social exclusion situations are cognitively construed in the first place. Here, we focus on two factors which are directly related to the immigration debate and supposedly strongly influenced the situated construal of the popular vote for immigrants: a) one's personal norms and attitudes regarding immigration, which are eventually related to one's political orientation as well as b) social support from the Swiss people.

Anti-immigration attitudes and Left/Right Orientation. Some social exclusion experiences can be attributed to situational norms or are in line with an individual's personal value system [48]. Such experiences are not interpreted as a threat to one's inclusionary status, and therefore hurt less than exclusion experiences which violate social or personal norms [47, 49-51]. To illustrate, previous studies have shown that left-wing participants who are excluded based on a gender quota perceived this exclusion as less threatening than right-wing participants [47]. Presumably this is because right-wing participants typically do not support such a left-wing political agenda and thus, exclusion due to gender quotas is seen as a norm violation and

subjective threat. In contrast, exclusion due to gender quotas is consistent with left-wing individuals' norms and thus experienced as less threatening.

In case of the Swiss vote, we expected that a more left-wing orientation would predict a more negative affective reaction to the vote and that this relation would be mediated via anti-immigration attitudes. This is because persons with a political left-wing orientation are more in favor of policies benefitting immigrants (e.g., [14, 52, 53]) and should accordingly tend to have positive attitudes and norms regarding immigration. The result of the vote therefore represents a norm violation, causing negative affective responses. In comparison, people with a more moderate or right-wing orientation are oftentimes more in favor of immigration regulation. Even though it might appear to be contrary to their self-interest, conservative immigrants might also have generalized personal norms and attitudes that are in line with immigration regulation, namely that a country should be allowed to protect its character and not let too many foreigners in. Since personal norms and attitudes create a feeling of obligation to uphold these attitudes and act in line with them [48], conservative immigrants might uphold these ideals even when the country that enforces them is not their country of origin [14] but rather their country of residence. As a result, immigrants with a more right-wing orientation should have reacted less negative to the result of the vote.

Social Support. Social support and the extent to which a person feels personally accepted and appreciated in her or his current surroundings can buffer an individual against the pain of social exclusion [17, 20, 54, 55]. Especially, previous contact with members of the outgroup is an effective buffer against threat [56]. We therefore hypothesized that support which derived from the same apparent majority that ostracized the individual, i.e., the Swiss people, would be positively associated with the reported affective response to the vote. This feeling of

support from the Swiss people can derive from at least two possible sources, namely a) the individual has many Swiss friends and b) the individual lives in a canton where the majority voted against the initiative. We assumed that both factors could offer structural as well as functional support and thereby reduce the negative consequences of exclusionary threat.

As for structural support, both the availability of Swiss friends as well as a canton vote that differed from the result of the general vote might prevent immigrants from overgeneralizing the result of the vote to the conclusion that they are excluded and disliked by "all of the Swiss people." Instead, their friends or the result in their canton might point them to the fact that they were "only" excluded by a narrow majority of 50.3 which might (physically or socially) not even be in their immediate surroundings, as well as reinforce the impression that at least some Swiss people are on their side. As for Swiss friends, naturally this argument only holds if one's friends have indeed voted against the initiative. However, intergroup contact hypothesis [57, 58], would suggest that Swiss citizens who befriend immigrants are less likely to be opposed to immigrants and immigration in general.

Regarding functional social support, it has been shown that excluded individuals typically have a heightened need for social reaffiliation with people they perceive as non-perpetrators [35, 59, 60]. There might be more reaffiliation options for individuals with many Swiss friends or individuals who live in an immigration-supporting canton than for individuals with few or no Swiss friends or immigrants living in immigration-opposing cantons.

Consequences: Life satisfaction, Attitude change towards the host country and desire to leave

Following the first (reflexive) negative reaction to an exclusionary threat, in the reflective stage excluded individuals typically aim to cope with it by aiming to reaffiliate with others as

well as try to disengage and distance themselves from the perpetrators [36], who are typically perceived as negative [35]. This negative view as well as distancing attempts should be stronger if the initial exclusionary threat was perceived as very severe. In addition, to avoid further contact with Swiss people and to increase chances to connect with other, non-Swiss people, an immigrant's best option might be to leave the country. We therefore expected that more negative affect as a result of the vote would be associated with a more negative attitude toward the excluding majority, that is, the Swiss people, as well as a stronger interest to leave the country in the future.

In laboratory research, induced exclusion experiences are minor and people usually recover within a couple of minutes. In the field, especially when unresolved, the initial negative effects of exclusionary threats continue to influence further behavioral and affective consequences. In the TNMT [21], this phase is called the *resignation stage* and characterized by signs of depression, decreased life satisfaction and learned helplessness. In line with this, previous research has shown that experiencing social exclusion in general negatively affects satisfaction with life for immigrants [e.g., 16, 18, 19, 20]. Accordingly, we expected that the reported immediate affective response to the vote would be associated with life satisfaction insofar that the stronger the negative affective response, the lower one's life satisfaction. Note that life satisfaction judgments have been shown to be strongly affected by situational variation [61].

Taken together, we expected a reported immediate negative affective reaction to predict a negative change in one's self-reported attitude towards Switzerland as well as increased considerations to leave the country. All three aforementioned variables that measure potential

long-term consequences to the vote (attitude change towards Switzerland, considerations to leave the country, and life satisfaction) are henceforth referred to as "outcome variables."

"Hot" and "cold" reactions to exclusionary threats

So far, we have focused on associations with the reported immediate affective response that immigrants experienced as a result of the vote, a link henceforth described as the "hot path." While this hot path corresponds to predictions of the TNTM and most laboratory research on social exclusion, in a real life setting such as the Swiss vote, there might be additional cognitive processes, which are independent from the affective experience of threat as a result of the vote. For instance, individuals in favor of immigration might in general devalue any country that tightens immigration regulation, regardless of whether they feel personally threatened by a specific event such as the vote. To account for such processes, it therefore appeared plausible to assume a second, "cold path", that is more cognitive-driven and not related to reactions to the actual vote. This distinction is further in line with a body of research that generally distinguishes between two judgmental processes, one mainly driven by (hot) affective responses and the other mainly driven by (cold) cognitions (e.g., [62, 63]).

In terms of our hypothesized model, the "hot path" links anti-immigration attitudes to the three outcome variables via the affective reaction. More specifically, we assumed that less anti-immigration attitudes would predict a more negative affective reaction as a result of the vote. This negative affective reaction is subsequently related to a more negative attitude change towards Switzerland, increased considerations to leave the country and impaired life satisfaction. The "cold path" is represented by a direct effect of anti-immigration attitudes on attitude change towards Switzerland and considerations to leave the country that is *not* mediated via the affective reaction. While attitude change and considerations to leave the country represent consequences

that directly respond to one's opinion about Switzerland, satisfaction with life refers more towards one's own self and one's subjective life conditions. This is why we assumed that the relation between anti-immigration attitudes and satisfaction with life should be fully mediated by the affective reaction to the vote.

Hypothesized Model

In summary, we assumed that the Swiss initiative against mass immigration resulted in feelings of threat, hurt, and decreased mood among immigrants in Switzerland. We postulated that political orientation and social support would influence the strength of the reported affective reaction to the vote in the following way:

H 1: The more left-wing, the less anti-immigration attitudes.

H 2a: The less anti-immigration attitudes, the more negative the reported affective reaction.

H 2b: The higher the proportion of Swiss friends, the less negative the reported affective reaction.

H 2c: Immigrants from cantons that have voted pro-initiative report a more negative affective reaction.

H 3: Left/right orientation affects the affective reaction indirectly via anti-immigration attitudes.

Moreover, we assumed that the degree of the negative affective reaction had a direct effect on all three outcome variables (hot path):

H 4a: The more negative the affective reaction, the more negative the attitude change towards one's host country.

H 4b: The more negative the affective reaction, the more negative one's life satisfaction.

H 4c: The more negative the affective reaction, the higher one's desire to leave the country.

Finally, we assumed that one's attitude would also directly influence the outcome variables (cold path):

H 5a: The stronger ones' anti-immigration attitudes, the more positive the attitude change towards one's host country.

H 5b: The stronger ones' anti-immigration attitudes, the lower one's desire to leave the country.

All predictions were integrated into a hypothesized path model that is depicted as *Figure 1*.

--- Place Figure 1 here ---

Fig. 1. Hypothesized structural equation model.

[a] high values indicate a right-wing orientation

[b] high values indicate strong anti-immigration attitudes

[c] 0 = pro Initiative, 1 = contra Initiative

[d] high values indicate a positive affective reaction

[e] low values indicate an attitude change in a negative, high values in a positive direction

Method

Participants

We conducted an online survey three weeks after the Swiss vote among German-speaking immigrants of Switzerland with a foreign citizenship, which was distributed via several mailing lists and online groups (e.g., Facebook groups, university mailing lists) as well as

snowball sampling. Because of the timing, a unique dataset was acquired. In line with [64] the study was conducted in full accordance with the Ethical Guidelines of the Swiss Psychological Society (SGP-SSP) and the American Psychological Association (APA). By the time the data were acquired (March 2014) it was not customary at Basel University to seek ethics approval for survey studies. All questionnaires in the study were anonymous questionnaires and no identifying information was obtained from participants during the survey (after the survey, participants could enter their email address for a lottery; this data was stored separately from the survey data). Before starting the survey, participant were presented with a consent form stating explicitly that their participation was voluntary, that they may withdraw from the study at any time without explanation, and that the data is treated confidentially. Participants then gave informed consent via a yes/no item. Particularly, they confirmed that they were at least 18 years old, had read the consent form and agreed to participate in the survey. Moreover, participants could easily withdraw from the study at any time by closing the Internet browser and further had the option to indicate that their data should not be used (yes/no item) at the end of the survey.

The survey included persons who were currently living, working, or studying in Switzerland, but did not hold Swiss citizenship. Overall, 332 participants finished the questionnaire, but seven participants did not want their data to be analyzed. Moreover, because some of the measures were specific for immigrants who live in Switzerland (canton vote, considerations to leave the country) we excluded cross-border commuters without a Swiss residence from the statistical analysis (43 participants). The following analyses are all based on 282 participants who currently had residence in Switzerland at the time of the vote (193 females, M_{age} = 33.60, SD = 8.58).

Participants had lived in Switzerland between 1 month and 32 years (M = 6.11 years, SD = 6.15), with 34.0 % holding the (permanent) settlement Permit C, 59.6 % the (temporary) residence Permit B, and 3.9% the short-term residence Permit L. In the current sample, 89 % of participants had successfully completed the academic track of secondary school and 70.6 % possessed a university degree. Participants lived in 21 different cantons (out of 26), the most frequent ones being Zürich (29.4%), Basel-Stadt (26.6%), Aargau (9.2%) and Luzern (7.8%). There were 110 participants living in cantons who had supported the initiative and 172 participants living in cantons that had opposed the initiative. Most participants lived in cantons in which German is one of the official languages (97.8 %) and also, the major immigrant groups in the survey were Germans (71.7 %) and Austrians (13%). This was not surprising since the language of the survey was German.

The present sample consists mainly of highly skilled immigrants from Germany and is therefore not representative for the entire immigrant population of Switzerland. Strictly speaking, conclusions are refined to this group. However, Germans represent one of the major groups of Switzerland's immigrant population [4, 5]. The large proportion of academic background in the sample further equals the proportion reported in official statistical surveys for German immigrants in Switzerland (e.g., "Schweizer Arbeitskräfteerhebung"; [5]). And finally, prior research suggests that the negative effects associated with exclusionary threats are strong, robust, and show relatively little variation with regard to interpersonal or intergroup differences [25, 60]. Against this background, we speculate that findings obtained with the here sampled group likely extent to other immigrant groups, too. We further address possible issues of sample characteristics in the General Discussion.

Measurements

Predictors: Left/Right orientation and Proportion of Swiss friends. To assess Left/Right orientation, participants were asked: *"Please indicate your political attitude on the following scale"* (semantic differential; *1= left, 11 = right*). To assess the proportional amount of Swiss friends, participants were asked: *"How many of your friends are Swiss?"* (*1 = none or almost none, 7 = everybody or almost everybody*).

Mediators: anti-immigration attitudes and immediate affective reaction. To assess anti-immigration attitudes, we created a four item scale ("*High immigration is more of a risk than a gain for a country," "High immigration destroys the character of a country," "Countries have to regulate their immigration to uphold their cultural identity," "In the long run, high immigration has both economic as well as cultural disadvantages,"* 7-point Likert scales, *1 = not at all, 7 = very much;* Cronbach's $\alpha = .87$).

Immediate affective reaction to the result of the Swiss vote was assessed via three constructs: Need Fulfillment, Mood, and Hurt [21]. To make sure that we indeed assessed affective reaction to the vote, participants were instructed to put themselves back in the situation when they had first heard about the result of the vote. Previous research has indicated that individuals can remember as well as relive social exclusion experiences very accurately [65]. For reasons of test efficiency, Need Fulfillment and Mood were assessed with short scales [47].

Specifically, Need Fulfillment was assessed with four 9-point semantic differentials representing four fundamental needs (adjectives: *rejected – accepted* (belongingness), *devalued – valued* (self-esteem), *powerless – powerful* (control), and *invisible – recognized* (meaningful existence), Cronbach's $\alpha = .77$). Mood was assessed with a single item measure (9-point semantic differential; *1 = bad, 9 = good*). Hurt was assessed with two items (*"The result of the*

vote hurt me" and "The result of the vote disappointed me personally"; 9-point Likert Scale; *1 = not at all, 9 = very much, r* = .63, $p < .001$).

Outcome variables: Attitude change, Considerations to leave the country, Satisfaction with Life. To assess attitude change towards Switzerland, participants were asked: *"The following question relates to your evaluation of Switzerland after the vote. Compared to my attitude before the vote, my attitude towards Switzerland became more…"* Participants then answered three 7-point semantic differentials (*worse – better, negative – positive, dissatisfied - satisfied*; Cronbach's α = .93).

Considerations to leave the country at present were assessed with a single item: *"To what extent do you consider it an option to move away from Switzerland right now?"* (7-point scale, coded as *1 = not at all, 7 = very much*).

To assess participants' current satisfaction with life, we used the German translation of the *Satisfaction with Life scale* (Cronbach's α = .87; [66]), which consists of five items, e.g., *"I am satisfied with my life."*

Analyses

The postulated path model reflecting the assumed associations (see Figure 1) was computed using structural equation modeling with MPLUS Version 7.1 [67]. We used the Maximum Likelihood estimator with robust standard errors (MLR) to conduct our analyses. While all other constructs were included as manifest variables, *immediate affective reaction* was modeled as a latent factor using the highly correlated variables *Hurt*, *Need Fulfillment,* and *Mood* as indicators (smallest *r* = -.63).

Following the suggestions of Hu and Bentler [68], we report the model fit using the χ^2-test for model fit and a combination of misfit (SRMR, RMSEA) and fit indices (CFI). In line

with the recommended rules of thumb for cut-off values by Schermelleh-Engel, Moosbrugger and Müller [69], we distinguish between an acceptable ($p \geq .01$, SRMR $\leq .10$, RMSEA $\leq .08$, CFI $\geq .95$) and a good model fit ($p \geq .05$, SRMR $\leq .05$, RMSEA $\leq .05$, CFI $\geq .97$).

Results

Descriptive results

Central to our argument is the question whether participants were negatively affected by the vote at all. In the absence of a natural control group or a pre-vote message, a comparative analysis is not possible. However, because many of the variables were measured as semantic differentials (need fulfillment, mood, attitude towards Switzerland), one may compare group means to the respective scale midpoint in order to determine general tendencies within the sample.

On average, participants reported experiencing feelings of threat, hurt, and a negative mood when they first heard about the results of the vote (combined Need Fulfillment: $M = 3.36$, $SD = 1.37$; Mood: $M = 3.24$, $SD = 1.72$; Hurt: $M = 5.84$, $SD = 2.42$). For Need Fulfillment, 86 percent of the participants reported a value below the scale midpoint of 5.00 (72 % for Mood), thus indicating a negative experience (both differences from the midpoint were significant, $p < .001$). Moreover, on average, participants reported that their attitude towards Switzerland had been impaired after the vote ($M = 2.72$, $SD = 1.34$), with 73 percent of the participants reporting values below the scale midpoint of 4.00; $t(281) = -15.62$, $p < .001$. Variables without a direct reference to the vote generally reflected a more positive attitude (Considerations to leave the country: $M = 2.70$, $SD = 2.04$, Satisfaction with life: $M = 4.95$, $SD = 1.19$, on 7-point scales). Participants who held a temporary permit differed from participants with a permanent permit neither in their reported affective reaction to the vote, nor in the level of attitude change towards

Switzerland (all $p > .165$). The amount of time participants already lived in Switzerland did not affect these variables either (all $p > .318$).

As for the predictors, on average participants were left-wing ($M = 4.71$, $SD = 1.76$), had little anti-immigration attitudes ($M = 2.72$, $SD = 1.34$), and a rather small proportion of Swiss friends ($M = 2.98$, $SD = 1.65$). The zero-order correlations of all variables are displayed in *Table 1*.

Table 1. Zero order correlations.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Left/Right Orientation [a]									
(2) Anti-Immigration Attitudes [b]	.41**								
(3) Canton vote [c]	-.08	-.08							
(4) Proportion of Swiss Friends	.04	.16**	-.11						
(5) Hurt	-.12*	-.32**	-.12	-.08					
(6) Positive Mood	.12*	.26**	.16**	.16**	-.63**				
(7) Need Fulfillment	.09	.31**	.11	.16**	-.64**	.68**			
(8) Attitude change[d]	.19**	.36**	.13*	.17**	-.55**	.61**	.57**		
(9) Life Satisfaction	.05	.06	.02	.15*	-.20**	.20**	.19**	.23**	
(10) Considerations to leave the country	-.09	-.24**	.05	-.32**	.27**	-.26**	-.24**	-.28**	-.30**

[a] High values indicate a right-wing orientation.

[b] High values indicate strong anti-immigration attitudes.

[c] 0 = pro Initiative, 1 = contra Initiative

[d] low values indicate an attitude change in a negative, high values in a positive direction

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

Structural Equation Modeling

At first the postulated model showed an acceptable fit to the data (χ^2 (27; $n = 282$) = 45.58, $p = .014$, *CFI* = .971, *RMSEA* = .049, *SRMR* = .048). We computed modification indices

to explore if there were further reasonable associations between model variables impairing the model fit in our initial model. These modification indices suggested an additional association between the proportion of Swiss friends and considerations to leave the country. Even though this association was not originally included in the hypothesized model, it appeared conceptually reasonable that the two variables should be connected. Besides the effects of current events like the vote on immigration regulation, people should be more likely to stay in places where they have established a social network. Since we had had no a priori hypothesis on this association, we freed an undirected effect between the two variables. After this step all fit indices improved, suggesting a good fit between our model and the data (χ^2 (28; n = 282) = 32.38, p = .260, *CFI* = .993, *RMSEA* = .024, *SRMR* = .038). The final adjusted path model with the estimated path coefficients is shown in *Figure 2.*

--- Place Figure 2 here --.

Fig. 2. Observed structural equation model. Only significant correlations between the dependent variables are displayed (p < .05).

[a] high values indicate a right-wing orientation

[b] high values indicate strong anti-immigration attitudes

[c] 0 = pro Initiative, 1 = contra Initiative

[d] high values indicate a positive affective reaction

[e] low values indicate an attitude change in a negative, high values in a positive direction

In the following, we will focus on the observed path coefficients and their relation to our initial hypotheses. First of all, a more left-wing political orientation was linked to less anti-immigration attitudes *(H1)* and thereby indirectly associated with a more negative affective

reaction towards the vote (*H3;* see *Table 2* for the indirect effect). Moreover, having many Swiss friends as well as living in a canton that had opposed the initiative predicted a less negative affective reaction as a result of the vote (*H2b-c*). A more negative affective reaction to the vote was further associated with a more negative change of attitude towards Switzerland, as well as increased considerations to leave the country and decreased satisfaction with life (*H 4 a-c*).

As for the two postulated pathways, less anti-immigration attitudes directly predicted a more negative affective reaction as a result of the vote *(H2a)* and subsequently had an indirect effect on the three outcome variables, representing the postulated "affective/hot path" (*Table 2).* As for the direct (cognitive/cold) path, less anti-immigration attitudes directly predicted a more negative attitude change and increased considerations to leave the country, unmediated by the affective reaction *(H5a&b).*

Table 2. Expected indirect effects.

	$\beta_{indirect}$	*z*	*p*
Left/Right Orientation → Anti-Immigration Attitudes → Affective reaction	.14	4.22	< .001
Anti-Immigration Attitudes → Affective reaction → Attitude change	.24	4.61	< .001
Anti-Immigration Attitudes → Affective reaction → Life Satisfaction	.09	3.04	.002
Anti-Immigration Attitudes → Affective reaction → Considerations to leave	-.08	-2.61	.009

Discussion

This contribution represents a unique dataset collected three weeks after the Swiss popular vote against mass immigration. In the present survey, immigrants reported having experienced strong feelings of hurt and negative mood as well as threat to their fundamental needs of belongingness, self-esteem, control, and meaningful existence as a result of the Swiss vote. Moreover, the empirical evidence supports the assumption that living in immigration-

opposing cantons, being politically left-wing and having few Swiss friends is related to a more negative affective reaction as a result of the vote. A negative affective reaction subsequently predicted a negative attitude change towards Switzerland, increased considerations to leave the country, and decreased life satisfaction.

Effects of exclusionary popular votes

To our knowledge, the current study is the first to investigate the effects of a popular political vote against immigration on the affected minority, namely the immigrants. Results from the current study indicate that immigrants can feel threatened by such an exclusionary vote and provide important information about the negative consequences as well as possible factors that influence how such an experience is perceived.

Specifically, the results highlight the importance of subjective interpretations of exclusion experiences: First, the data suggest that exclusionary threats can vary considerably in their strength according to one's own personal attitudes and norms, such as one's political opinion. Second, the overall strong negative reaction of the immigrants clearly demonstrates that exclusionary threats do not need to be objective and concrete to affect an individual (e.g., an upcoming deportation or visa expiration). Even a mostly subjective threat such as a vote concerning future immigration of others can suffice to result in considerable distress. Still, there might be several underlying reasons why immigrants feel threatened: feeling not welcome and disliked by one's host country, experiencing an offense against one's ingroup or vicarious ostracism [42, 70], concerns that family members might not be able to follow into the country which could leave the immigrant isolated in the future, or general insecurity about what the result of the vote means and what concrete measures are to follow.

While we did not ask directly whether participants experienced the popular vote as an exclusionary threat, the typical decrease in the fundamental needs of belonging, self-esteem, control and meaningful existence that is characteristic for social exclusion episodes is highly suggestive in this regard. Moreover, in a different study nine months later, we asked 326 participants about a similar popular vote ("Ecopop initiative") in which feelings of being excluded and ignored were assessed pre- and post-vote *(*7-point semantic differentials, *excluded – included, ignored – acknowledged)*. In contrast to the initiative against mass immigration, the Ecopop initiative was opposed by the Swiss people, which resolved the exclusionary threat and prevented us from testing our hypotheses. Nevertheless, this data is partly interesting because participants reported stronger feelings of exclusion pre-vote (while the exclusionary threat was still in the air) compared to post-vote (when the exclusionary threat was resolved), $t(325) = 17.94$, $p < .001$ ($M_{pre\text{-}vote} = 2.97$, SD = 1.26; $M_{post\text{-}vote} = 4.93$, $SD = 1.07$). Moreover, immigrants reported significantly more feelings of exclusion than Swiss participants ($M = 2.96$, $SD = 1.26$ and $M = 3.63$, $SD = 1.28$, respectively). Given that the two votes were rather similar in content, these results suggest that immigrants experienced the vote against mass immigration as some form of exclusionary threat, too.

An interesting question is whether the obtained results are specific for popular votes or would generalize to other demonstrations of public opinions or attitudes that can also be found in countries without a direct democracy (e.g., results of opinion polls, attention-drawing demonstrations against immigration, etc.). On the one hand, the effects of such demonstrations of public opinion are more subtle than a popular vote and usually do not involve direct consequences, which is why they might lead to less drastic decreases in immigrants' affects. On

the other hand, since they are more commonplace, negative effects might sum up over time and result in an overall feeling of not being welcome.

Social exclusion beyond the laboratory

The results further extend previous research in the field of social exclusion, which was usually confined to laboratory studies that generally relied on small groups and visible, clearly identified perpetrators. While laboratory research is highly important to unravel and investigate the basic processes which underlie the experience of social exclusion, the utilized paradigms can merely represent an approximation to multi-faceted social exclusion situations in real life. Accordingly, it is of equally high importance to transfer obtained knowledge about variables and processes from the lab to the real world and apply them to natural, realistic settings such as the Swiss vote. The present study is a first step in that direction.

In the case of the Swiss vote, the source of exclusionary threat was an anonymous majority opinion which was not directed at the participant specifically. Still, participants reported having experienced threat and a negative affective reaction as a result of the vote. That the perpetrators cannot be clearly identified might create additional uncertainty and threat, since immigrants often may not know whether the concrete persons they are interacting with in everyday life belong to this majority or not.

Moreover, the TNTM and laboratory research on social exclusion have strongly emphasized the role of the primary affective reaction and the effect of different threatened needs such as belonging or control on behavioral outcomes [71]. However, laboratory studies usually focus on rather short timeframes up to one hour and minor exclusionary threats from which participants recover quickly. While the first affective reaction to exclusionary threat is certainly of high importance for immediate subsequent behavior, individuals who have time to consider

their options for days or weeks might also behave in more cognitive, "coldly" processed ways that do not necessarily reflect the amount of threat and hurt that was experienced in the first moment. For instance, the final decision to leave the country might also highly depend on how immigrants perceive their job opportunities in Switzerland after the vote.

Differences due to immigrant group

Our survey mainly represents the experiences of highly skilled immigrants from German-speaking countries, who represent one of Switzerland's major immigrant groups [4]. Most participants further lived in German-speaking Switzerland, which tends to be less immigration-friendly compared to the French-speaking cantons [52, 72]. Still, because the results of the vote affect all immigrants, and because negative reactions to social exclusion threats show little variation due to interpersonal and intergroup differences [25, 60], one may speculate that other immigrant groups were likely affected, too. Yet, because experienced negative affect was a function of the canton vote, immigrant groups in more immigration friendly cantons might have been affected less.

Additionally, there could be further potential differences between different groups of immigrants. First, immigrants who speak one of the Swiss languages as their mother tongue (i.e., German, French or Italian) might be able to follow the media coverage about the initiative more easily than immigrants who do not (e.g., immigrants from Yugoslavia or Portugal), and accordingly be affected more by the results of the vote. Moreover, immigrants from EU countries, who so far have profited from the free movement of workers as part of the Schengen agreement, might experience the vote as a (norm) violation of the Schengen agreement; until the vote, the Schengen agreement gave EU citizens the right to apply for work in Switzerland without being subjected to quotas. This could have resulted in a stronger affective reaction of EU

citizens compared to immigrants from third party countries. Finally, high-status immigrants might have less experience with stigmatization and discrimination in everyday life than low-status immigrants. This might have resulted in a higher level of surprise as a result of the vote compared to low-status immigrants. Still, laboratory research on social exclusion has demonstrated that expecting exclusion does not affect the initial pain that results from an exclusion experience, though it lowers subsequent aggressive responses [73]. Relating these results to the vote, one could assume that high and low status immigrants might experience the same initial pain, but react differently in the long run. For instance, highly skilled immigrants from EU countries might have better options to return to their home country, and therefore disengage and discard the result of the vote more quickly. Immigrants for whom returning is not possible or would be connected to a loss of social status or resources might on the other hand experience more devastating long-term consequences as a result. Such differential questions might be interesting to pursue in future studies including diverse groups of immigrants.

Limitations

All our conclusions are drawn based on cross-sectional data, which is not sufficient to clearly address issues of causality. For instance, one could assume that immigrants experience strong negative affect in general, independent of the result of one specific vote. Such relations are partially reflected in the cold path, or more specifically, in the direct link between anti-immigration attitudes and considerations to leave the country that is not mediated via the affective reaction to the vote. However, there are several reasons why one might argue for some causal effect of the vote on the investigated variables:

First, our results are in line with predictions of the Temporal Need Threat model of ostracism [21], which proposes a causal path of reflexive reactions (immediate feelings of threat

and pain) resulting in subsequent reflective reactions (e.g., attempts to distance oneself from the perpetrators). Additionally, from a more empirical perspective, all of our conclusions that we presented here are backed by the rich experimental findings of social exclusion research that allow for causal conclusions (for an overview, see [21]) and that have provided evidence for processes similar to the ones suggested here.

Second, the variables measuring the immediate affective reaction and attitude change towards Switzerland explicitly referred to participants' subjective experience *as a result of the vote*. In the absence of a pre-vote measure or a comparable control group that was not subjected to exclusionary threat, individuals' reported reactions to the vote were tested against the natural scale means, which resulted in significant negative effects. Since there was no negative deviation from the scale mean for variables that were not directly related to the vote (considerations to leave the country and satisfaction with life), it appears unlikely that the results reflect a general negative attitude but rather a specific reaction due to the vote.

Third, the canton where the immigrants lived is an objective variable that is directly related to the voting results. The finding that immigrants from cantons that supported the initiative experienced a more negative affective reaction and more negative attitude change than immigrants from cantons that opposed the initiative further supports the assumption that it was indeed the vote which caused these effects. It should be mentioned though, that the cantons that had opposed and supported the initiative most likely differ on other criteria than the mere result of their vote. For instance, rural cantons had mainly supported the initiative, whereas more urban cantons such as Basel-Stadt, Zürich, and Geneva, that also have the largest proportion of immigrants [6], had opposed the initiative. As a result, immigrants living in initiative-opposing cantons might have better social networks and feel generally more accepted in their everyday life

even prior to the vote. It is therefore possible that individuals do not react to the canton vote per se, but that the canton vote is an indicator of a more or less immigration-friendly climate in general. Thus, it would be interesting for future field studies on the effects of social rejection on immigrants to additionally investigate general effects of a possible hostile climate on the well-being of immigrants. This would help to distinguish the solitary effects of political decisions and popular votes from those effects that are situated in the general political climate.

Long-term consequences

The current survey focuses on differences in affect and cognition shortly after the vote, which makes it difficult to derive assumptions about long-term behavioral consequences. For instance, it remains an open question whether considerations to leave the country would actually transform into actions and affect moving behavior. However, there is evidence that Swiss voting results can affect moving behavior and make immigrants refrain from moving into communities where they assume not to be welcome [74].

Our study was not conducted immediately after the vote but three weeks later. Still, participant's reported immediate affective reaction to the vote was linked to their current satisfaction with life. Since the result of the vote was extensively discussed in the Swiss media even weeks and months after the ballot, it is quite possible that even one single vote might result in enduring consequences. Previous research which has linked both a decreased satisfaction with life as well as social exclusion to symptoms of depression [21, 75], further stresses the notion of how powerful exclusionary threats are and that even short-term reactions to exclusion should not be treated lightly.

Conclusion

In sum, the results suggest that popular votes on immigration can act as a powerful exclusionary threat. Even though it is unclear whether immigrants will be objectively excluded, the vote might have induced subjective feelings of threat and hurt which are subsequently related to decreased satisfaction with life as well as a lower affiliation with one's host country.

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References

1. Schweizerische Bundeskanzlei. Eidgenössische Volksinitiative 'Gegen Masseneinwanderung'. 2016. Available: http://www.admin.ch/ch/d/pore/vi/vis413t.html.

2. Schweizerische Bundeskanzlei. Vorlage Nr. 580 Resultate in den Kantonen. 2016. Available: https://www.admin.ch/ch/d/pore/va/20140209/can580.html.

3. Moeckli D. Of minarets and foreign criminals: Swiss direct democracy and human rights. Human Rights Law Review. 2011;11(4):774-94. doi: 10.1093/hrlr/ngr026.

4. Helbling M. Why Swiss Germans don't like Germans: Opposition to culturally similar and highly skilled immigrants. European Societies. 2011;13(1):5-27. doi: 10.1080/14616696.2010.533784.

5. Bundesamt für Statistik. Erwerbstätigkeit und Arbeitszeit: Detaillierte Ergebnisse der SAKE. 2016. Available: http://www.bfs.admin.ch/bfs/portal/de/index/themen/03/02/blank/data/03.html - parsys_00301.

6. Bundesamt für Statistik. Population size and population composition. 2016. Available: http://www.bfs.admin.ch/bfs/portal/en/index/themen/01/02/blank/key/bevoelkerungsstand.html.

7. Wesselmann ED, Bagg D, Williams KD. "I feel your pain": The effects of observing ostracism on the ostracism detection system. Journal of Experimental Social Psychology. 2009;45(6):1308-11. doi: 10.1016/j.jesp.2009.08.003.

8. Wirth JH, Williams KD. `They don't like our kind': Consequences of being ostracized while possessing a group membership. Group Processes & Intergroup Relations. 2009;12(1):111-27. doi: 10.1177/1368430208098780.

9. Schmitt MT, Spears R, Branscombe NR. Constructing a minority group identity out of shared rejection: The case of international students. European Journal of Social Psychology. 2003;33(1):1-12. doi: 10.1002/ejsp.131.

10. Shnabel N, Nadler A, Ullrich J, Dovidio JF, Carmi D. Promoting reconciliation through the satisfaction of the emotional needs of victimized and perpetrating group members: The needs-based model of reconciliation. Personality and Social Psychology Bulletin. 2009;35(8):1021-30. doi: 10.1177/0146167209336610.

11. Butera F, Levine JM. Coping with minority status: Responses to exclusion and inclusion: Cambridge University Press; 2009.

12. Lucas T, Rudolph C, Zhdanova L, Barkho E, Weidner N. Distributive justice for others, collective angst, and support for exclusion of immigrants. Political Psychology. 2014;35(6):775-93. doi: 10.1111/pops.12204.

13. Gradstein M, Schiff M. The political economy of social exclusion, with implications for immigration policy. Journal of Population Economics. 2006;19(2):327-44. doi: 10.1007/s00148-005-0016-0.

14. Craig MA, Richeson JA. Not in my backyard! Authoritarianism, social dominance orientation, and support for strict immigration policies at home and abroad. Political Psychology. 2014;35(3):417-29. doi: 10.1111/pops.12078.

15. Silver H. Social exclusion and social solidarity: Three paradigms. International Labour Review. 1994;133(5/6):531-78. PubMed PMID: 9505300186.

16. Safi M. Immigrants' life satisfaction in Europe: Between assimilation and discrimination. European Sociological Review. 2010;26(2):159-76. doi: 10.1093/esr/jcp013.

17. Chow HP. Sense of belonging and life satisfaction among Hong Kong adolescent immigrants in Canada. Journal of Ethnic and Migration Studies. 2007;33(3):511-20. doi: 10.1080/13691830701234830.

18. Verkuyten M. Life satisfaction among ethnic minorities: The role of discrimination and group identification. Soc Indic Res. 2008;89(3):391-404. doi: 10.1007/s11205-008-9239-2.

19. Haisken-DeNew JP, Sinning M. Social deprivation and exclusion of immigrants in Germany. Ruhr Economic Papers. 2007;31:4-39.

20. Jasinskaja-Lahti I, Liebkind K, Jaakkola M, Reuter A. Perceived discrimination, social support networks, and psychological well-being among three immigrant groups. Journal of Cross-Cultural Psychology. 2006;37(3):293-311. doi: 10.1177/0022022106286925

21. Williams KD. Ostracism: A temporal need-threat model. In: Mark PZ, editor. Advances in Experimental Social Psychology. 41. San Diego, CA: Elsevier Academic Press.; 2009. p. 275-314.

22. Gonsalkorale K, Williams KD. The KKK won't let me play: Ostracism even by a despised outgroup hurts. European Journal of Social Psychology. 2007;37(6):1176-86. doi: 10.1002/ejsp.392.

23. Fayant M-P, Muller D, Hartgerink CHJ, Lantian A. Is ostracism by a despised outgroup really hurtful? A replication and extension of Gonsalkorale and Williams (2007). Social Psychology. 2014;45(6):489-94. doi: 10.1027/1864-9335/a000209.

24. Zadro L, Williams KD, Richardson R. 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. 2004;40(4):560-7. doi: 10.1016/j.jesp.2003.11.006.

25. Baumeister RF, Leary MR. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin. 1995;117(3):497-529. doi: 10.1037/0033-2909.117.3.497.

26. Wesselmann ED, Nairne JS, Williams KD. An evolutionary social psychological approach to studying the effects of ostracism. Journal of Social, Evolutionary, and Cultural Psychology. 2012;6(3):309-28. doi: 10.1037/h0099249.

27. Kerr NL, Levine JM. The detection of social exclusion: Evolution and beyond. Group Dynamics: Theory, Research, and Practice. 2008;12(1):39-52. doi: 10.1037/1089-2699.12.1.39.

28. Eisenberger NI, Lieberman MD, Williams KD. Does rejection hurt? An fMRI study of social exclusion. Science. 2003;302(5643):290-2. doi: 10.1126/science.1089134.

29. Williams KD, Cheung CK, Choi W. Cyberostracism: Effects of being ignored over the Internet. Journal of Personality and Social Psychology. 2000;79(5):748-62. doi: 10.1037/0022-3514.79.5.748.

30. Riva P, Williams KD, Gallucci M. The relationship between fear of social and physical threat and their effects on social distress and physical pain perception. Pain. 2013;155(3):485-93. doi: 10.1016/j.pain.2013.11.006.

31. MacDonald G, Leary MR. Why does social exclusion hurt? The relationship between social and physical pain. Psychological Bulletin. 2005;131(2):202-23. doi: 10.1037/0033-2909.131.2.202.

32. Zadro L, Boland C, Richardson R. How long does it last? The persistence of the effects of ostracism in the socially anxious. Journal of Experimental Social Psychology. 2006;42(5):692-7. doi: 10.1016/j.jesp.2005.10.007.

33. Van Beest I, Williams KD. When inclusion costs and ostracism pays, ostracism still hurts. Journal of Personality and Social Psychology. 2006;91(5):918-28. doi: 10.1037/0022-3514.91.5.918.

34. Knausenberger J, Hellmann JH, Echterhoff G. When virtual contact is all you need: Subtle reminders of Facebook preempt social-contact restoration after exclusion. European Journal of Social Psychology. 2015;45(3):279-84. doi: 10.1002/ejsp.2035.

35. Maner JK, DeWall CN, Baumeister RF, Schaller M. Does social exclusion motivate interpersonal reconnection? Resolving the "porcupine problem". Journal of Personality and Social Psychology. 2007;92(1):42-55. doi: 10.1037/0022-3514.92.1.42.

36. Ren D, Wesselmann E, Williams KD. Evidence for Another Response to Ostracism: Solitude Seeking. Social Psychological and Personality Science. 2016;7(3):204-12. doi: 10.1177/1948550615616169.

37. Mellor D, Stokes M, Firth L, Hayashi Y, Cummins R. Need for belonging, relationship satisfaction, loneliness, and life satisfaction. Personality and Individual Differences. 2008;45(3):213-8. doi: 10.1016/j.paid.2008.03.020.

38. Reis HT, Sheldon KM, Gable SL, Roscoe J, Ryan RM. Daily well-being: The role of autonomy, competence, and relatedness. Personality and Social Psychology Bulletin. 2000;26(4):419-35. doi: 10.1177/0146167200266002

39. Siewert P. Ostrakismos-Testimonien. Stuttgart: Steiner; 2002.

40. Kurzban R, Leary MR. Evolutionary origins of stigmatization: The functions of social exclusion. Psychological Bulletin. 2001;127(2):187-208. doi: 10.1037/0033-2909.127.2.187.

41. Mackie DM, Devos T, Smith ER. Intergroup emotions: Explaining offensive action tendencies in an intergroup context. Journal of Personality and Social Psychology. 2000;79(4):602-16. doi: 10.1037/0022-3514.79.4.602.

42. Mackie DM, Smith ER, Ray DG. Intergroup emotions and intergroup relations. Social and Personality Psychology Compass. 2008;2(5):1866-80. doi: 10.1111/j.1751-9004.2008.00130.x.

43. Wessendorf S. Culturalist discourses on inclusion and exclusion: The Swiss citizenship debate. Social Anthropology. 2008;16(2):187-202. doi: 10.1111/j.1469-8676.2008.00031.x.

44. Miguet F. Voting about immigration policy: What does the Swiss experience tell us? European Journal of Political Economy. 2008;24(3):628-41. doi: 10.1016/j.ejpoleco.2008.06.005

45. Pfundmair M, Graupmann V, Frey D, Aydin N. The different behavioral intentions of collectivists and individualists in response to social exclusion. Personality and Social Psychology Bulletin. 2015;41(3):363-78 doi: 10.1177/0146167214566186

46. Schoel C, Eck J, Greifeneder R. A matter of vertical position: Consequences of ostracism differ for those above versus below its perpetrators. Social Psychological and Personality Science. 2014;5(2):149-57 doi: 10.1177/1948550613488953.

47. Rudert SC, Greifeneder R. When it's okay that I don't play: Social norms guide the situated construal of social exclusion. Personality and Social Psychology Bulletin. in press.

48. Schwartz SH, Fleishman JA. Personal Norms and the Mediation of Legitimacy Effects on Helping. Social Psychology. 1978;41(4):306-15. doi: 10.2307/3033583.

49. Nezlek JB, Wesselmann ED, Wheeler L, Williams KD. Ostracism in everyday life. Group Dynamics: Theory, Research, and Practice. 2012;16(2):91-104. doi: 10.1037/a0028029.

50. Walton GM, Cohen GL. A brief social-belonging intervention improves academic and health outcomes of minority students. Science. 2011;331(6023):1447-51. doi: 10.1126/science.1198364.

51. Leary MR, Tambor ES, Terdal SK, Downs DL. Self-esteem as an interpersonal monitor: The sociometer hypothesis. Journal of Personality and Social Psychology. 1995;68(3):518-30. doi: 10.1037/0022-3514.68.3.518.

52. Sarrasin O, Green EGT, Fasel N, Christ O, Staerklé C, Clémence A. Opposition to antiracism laws across Swiss municipalities: A multilevel analysis. Political Psychology. 2012;33(5):659-81. doi: 10.1111/j.1467-9221.2012.00895.x.

53. Wilson TC. Americans' views on immigration policy: Testing the role of threatened group interests. Sociological Perspectives. 2001;44(4):485-501. doi: 10.1525/sop.2001.44.4.485.

54. Zhou X, Gao D-G. Social support and money as pain management mechanisms. Psychological Inquiry. 2008;19(3-4):127-44. doi: 10.1080/10478400802587679.

55. Teng F, Chen Z. Does social support reduce distress caused by ostracism? It depends on the level of one's self-esteem. Journal of Experimental Social Psychology. 2012;48(5):1192-5. doi: http://dx.doi.org/10.1016/j.jesp.2012.03.014.

56. Blascovich J, Mendes WB, Hunter SB, Lickel B, Kowai-Bell N. Perceiver threat in social interactions with stigmatized others. Journal of Personality and Social Psychology. 2001;80(2):253-67. doi: 10.1037/0022-3514.80.2.253.

57. Pettigrew TF. Generalized intergroup contact effects on prejudice. Personality and Social Psychology Bulletin. 1997;23(2):173-85. doi: 10.1177/0146167297232006.

58. Turner RN, Hewstone M, Voci A, Paolini S, Christ O. Reducing prejudice via direct and extended cross-group friendship. European Review of Social Psychology. 2007;18(1):212-55. doi: 10.1080/10463280701680297.

59. Gardner WL, Pickett CL, Knowles M. Social snacking and shielding. Using social symbols, selves and surrogates in the service of belonging needs. In: Williams KD, Forgas JP, von Hippel W, editors. The social outcast: Ostracism, social exclusion, rejection, and bullying. New York: Psychology Press; 2005. p. 227-42.

60. Williams KD. Ostracism. Annual Review of Psychology. 2007;58(1):425-52. doi: doi:10.1146/annurev.psych.58.110405.085641.

61. Schwarz N, Strack F, Mai H-P. Assimilation and contrast effects in part-whole question sequences: A conversational logic analysis. Public Opinion Quarterly. 1991;55(1):3-23. doi: 10.1086/269239.

62. Greene JD, Morelli SA, Lowenberg K, Nystrom LE, Cohen JD. Cognitive Load Selectively Interferes with Utilitarian Moral Judgment. Cognition. 2008;107(3):1144-54. doi: 10.1016/j.cognition.2007.11.004. PubMed PMID: PMC2429958.

63. Kahneman D. A perspective on judgment and choice: Mapping bounded rationality. American Psychologist. 2003;58(9):697-720.

64. Pfattheicher S, Schindler S. Misperceiving bullshit as profound is associated with favorable views of Trump, Cruz, Rubio, and Conservatism. . PLoS ONE. in press.

65. Chen Z, Williams KD, Fitness J, Newton NC. When hurt will not heal: Exploring the capacity to relive social and physical pain. Psychological Science 2008;19(8):789-95. doi: 10.1111/j.1467-9280.2008.02158.x. PubMed PMID: 34038048.

66. Glaesmer H, Grande G, Braehler E, Roth M. The German version of the satisfaction with life scale (SWLS). European Journal of Psychological Assessment. 2011;27(2):127-32. doi: 10.1027/1015-5759/a000058

67. Muthén LK, Muthén BO. Mplus User's Guide. 7 ed. Los Angeles, CA: Muthén & Muthén; 1998-2015.

68. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal. 1999;6(1):1-55. doi: 10.1080/10705519909540118.

69. Schermelleh-Engel K, Moosbrugger H, Müller H. Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. Methods of Psychological Research Online. 2003;8(2):23-74.

70. Wesselmann ED, Williams KD, Hales AH. Vicarious ostracism. Frontiers in Human Neuroscience. 2013;7. doi: 10.3389/fnhum.2013.00153.

71. Gerber J, Wheeler L. On being rejected: A meta-analysis of experimental research on rejection. Perspectives on Psychological Science. 2009;4(5):468-88. doi: 10.1111/j.1745-6924.2009.01158.x.

72. Green EG, Fasel N, Sarrasin O. The more the merrier? The effects of type of cultural diversity on exclusionary immigration attitudes in Switzerland. International Journal of Conflict and Violence. 2010;4(2):177-90.

73. Wesselmann ED, Butler FA, Williams KD, Pickett CL. Adding injury to insult: Unexpected rejection leads to more aggressive responses. Aggressive Behavior. 2010;36(4):232-7. doi: 10.1002/ab.20347.

74. Slotwinski M, Stutzer A. The deterrent effect of voting against minarets: Identity utility and foreigner's location choice. IZA Discussion Papers, No 9497. 2015.

75. Koivumaa-Honkanen H, Kaprio J, Honkanen R, Viinamäki H, Koskenvuo M. Life satisfaction and depression in a 15-year follow-up of healthy adults. Soc Psychiatry Psychiatr Epidemiol. 2004;39(12):994-9. doi: 10.1007/s00127-004-0833-6.

Figure 1

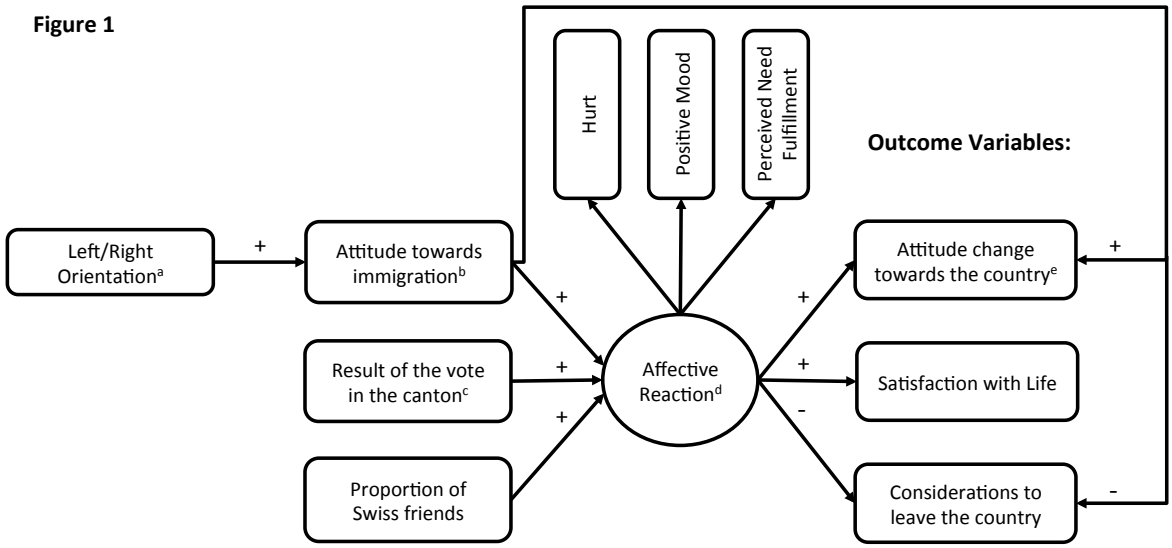
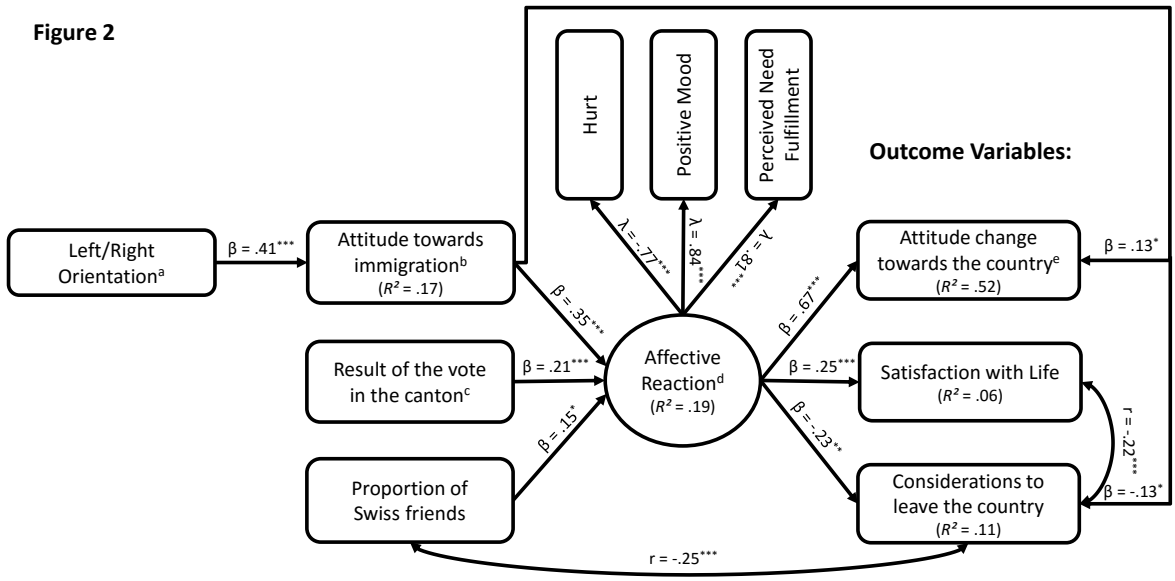


Figure 2



Faced with exclusion:
Perceived facial warmth and competence influence moral judgments of social exclusion

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Abstract

The current research investigates how facial appearance can act as a cue that guides observers' feelings and moral judgments about social exclusion episodes. In three studies, we manipulated facial portraits of allegedly ostracized persons to appear more or less warm and competent. Participants perceived it as least morally acceptable to exclude a person that appeared warm-and-incompetent. Moreover, participants perceived it as most acceptable to exclude a cold-and-incompetent looking person. In Study 2, we also varied the faces of the excluding group (i.e., the ostracizers). Results indicate that typical ostracizers are imagined as cold-and-incompetent looking. Study 3 suggests that the effect of a target's facial appearance on moral judgment is mediated by feelings of disgust. In sum, people's moral judgment about social exclusion can be influenced by facial appearance, which has many implications in intergroup research, such as for bystander intervention.

Keywords: social exclusion, ostracism, faces, stereotype content model

Introduction

Social exclusion, bullying, and ostracism are ubiquitous phenomena. Most people can easily remember one or many occurrences when they observed someone being excluded from a group, be it at school, at the workplace, on an Internet platform, or on a TV reality show. How individuals judge such a situation of social exclusion, however, highly depends on how they understand the respective situation (Wesselmann, Wirth, Pryor, Reeder, & Williams, 2013; Rudert & Greifeneder, in press): Do they assume, for instance, that the guy from the other department is being excluded from all social activities for no reason, or that he behaved in a cold and selfish way before and is now being "rightfully" punished by his colleagues? Making such a moral judgment can be difficult and time-consuming, which is why people may revert to heuristics or stereotypes that help them to make quick judgments (Brewer, 1988; Fiske & Neuberg, 1990). In doing so, individuals rely on easily available and particularly salient cues, such as a person's face (Hassin & Trope, 2000). Even though most people might agree that it is neither fair nor justified to exclude a person for no other reason than his or her face, facial cues have been shown to influence a variety of judgments as well as emotional and behavioral responses (Berry & Zebrowitz-McArthur, 1988; Keating, Randall, Kendrick, & Gutshall, 2003).

Building on this evidence, we investigate three central research questions: (a) whether a person's facial appearance influences an observer's judgment on how acceptable it seems to exclude that person from a group, and (b) which facial characteristics increase or decrease the acceptability of exclusion. Particularly, we focus on differences in acceptance of social exclusion as a response to specific combinations of perceived warmth and competence. Finally, we investigate (c) whether these differences in moral judgment are the result of emotional reactions triggered by the facial appearance of the target of exclusion. We build our predictions on research about social exclusion, facial appearance, and the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002).

Acceptability of Social Exclusion

Social exclusion, bullying, and ostracism are common phenomena in society: According to the 2010 National Health Interview Survey, about 8% of U.S. employees reported being bullied or harassed at work (Alterman, Luckhaupt, Dahlhamer, Ward, & Calvert, 2013), while among school children aged 12 - 18, the percentage rises to 27% (U.S. Department of Education, 2013). The consequences of social exclusion can be highly detrimental for victims, leading to feelings of depression, passivity, detachment, and learned helplessness in the long run, which can subsequently result in extreme behavioral consequences such as suicidal attempts (Williams, 2009).

The powerful effects of social exclusion are not limited to its victims, however. In fact, most individuals seem to be aware that social exclusion is not to be taken lightly. Studies investigating the role of third-party observers have usually found evidence for vicarious ostracism, that is, people tend to empathize with the targets of social exclusion and try to support them (Masten, Morelli, & Eisenberger, 2011; Wesselmann, Bagg, & Williams, 2009; Will, Crone, van den Bos, & Güroğlu, 2013; for an overview see also Wesselmann, Williams, & Hales, 2013). In general, results indicate that social exclusion is seen as morally unacceptable and is strongly disliked by individuals.

Wesselmann, Wirth, and colleagues (2013) demonstrated in a set of studies that if participants watch another person being ostracized in an online ball-tossing game (Cyberball) without any additional information, they will express sympathy for the ostracized target and try to compensate by directing more throws towards that person. However, results were different when the ostracized target seemed to be throwing the ball deliberately slowly. In that case, participants interpreted ostracism as a punishment that was self-inflicted by the target because he or she slowed down the game. As a result, participants perceived social exclusion as acceptable and even joined other ostensible players in ostracizing the target person from the game (see also Wesselmann, Williams, & Wirth, 2014). Similarily, Hales, Kassner,

Williams and Graziano (2016) showed that individuals are more inclined to exclude and ostracize a person who has failed to help a friend before and is therefore perceived as disagreeable. In sum, the studies indicate that individuals who display a disagreeable, uncooperative, and cold attitude are perceived as burdensome and expendable, and thus, excluding them appears morally acceptable.

In the abovementioned studies, participants knew or even experienced the reason for the ostracism first hand. However, such obvious clues might often be missing in real life, especially when the observer is not a part of the group but merely watches a previously unknown group excluding one of its members. Think for instance of a teacher who is confronted with an ostracism situation in the schoolyard, or a new employee who observes one team at work deliberately excluding one of its members from social activities. How can these previously uninvolved observers come to a conclusion about whether ostracism is justified and acceptable or whether they should step in and assist the excluded target?

If observers have an adequate amount of time and motivation, they might engage in further inquiries such as trying to understand the situation and the events that resulted in the exclusion. However, especially when time, motivation, or cognitive capacity are limited, observers might instead rely on simple heuristics and cues as well as categorization processes and stereotypes to form an impression (Brewer, 1988; Fiske & Neuberg, 1990; Fiske, Neuberg, Beattie, & Milberg, 1987; Macrae, Milne, & Bodenhausen, 1994). An impression based on cues and heuristics is swiftly formed and can be very pervasive, though not necessarily valid. Here we focus on facial cues, as further discussed below.

Facial Appearance and First Impressions

When asked whether a person should be excluded due to his or her facial appearance alone, most people may find this an insufficient or even cruel reason. However, even though individuals did not choose their facial characteristics and even though people usually agree that “a book should not be judged by its cover,“ research has repeatedly demonstrated that

facial cues nevertheless strongly influence people's judgment. In fact, individuals intuitively and very swiftly draw inferences about others' personality traits based merely on the appearance of their faces (Ballew & Todorov, 2007; Bar, Neta, & Linz, 2006; Willis & Todorov, 2006). Moreover, there is a high overlap in people's expectancies of what a person with a certain personality might look like. For instance, there is a high agreement regarding which faces look nice, sincere, and trustworthy or powerful, agentic, and dominant, (Berry & McArthur, 1985; Oosterhof & Todorov, 2008; Todorov & Oosterhof, 2011; Walker & Vetter, 2016, 2009; Zebrowitz, Voinescu, & Collins, 1996), which can be observed even cross-culturally (Walker, Jiang, Vetter, & Sczesny, 2011).

Here we investigate whether individuals use certain cues derived from a person's facial appearance in order to judge how acceptable it is to exclude this person. What makes this research question especially intriguing is that this easily available cue is not necessarily a good one: Research has repeatedly demonstrated that cues derived from facial appearance may lack objective validity, and using faces as sources of information can result in overconfidence effects and lower judgmental accuracy (Hassin & Trope, 2000; Olivola & Todorov, 2010). Still, the effects of facial appearance are rather robust because individuals are often not aware that they are using facial cues for impression formation and are unable to ignore them (Bindemann, Burton, Hooge, Jenkins, & De Haan, 2005; Hassin & Trope, 2000; Ro, Russell, & Lavie, 2001). Accordingly, information that is derived from faces can influence subsequent judgments and behavior that should objectively be unrelated to facial appearance. For example, research on the babyface overgeneralization effect has shown that individuals with babyfaces are more likely to receive help from others and are less likely to be found guilty for intentional criminal behavior (Berry & Zebrowitz-McArthur, 1988; Keating, et al., 2003; Zebrowitz & Montepare, 2008). In addition, sustaining processes such as the confirmation bias or self-fulfilling prophecies might uphold the effect of a first impression even if additional, contradicting information becomes available, for instance, when evaluating

candidates for a job application (Hassin & Trope, 2000; Kelley, 1950; Rabin & Schrag, 1999; Rule, 2014).

In sum, there is strong evidence that a target person's facial appearance is a very salient cue that can have a strong and long-lasting effect on other people's judgment and behavior towards that target person. In the following, we will argue which dimensions of facial appearance may become relevant when individuals judge how acceptable it is to exclude a target person.

Perceived Warmth, Competence, and Moral Judgment

One possibility regarding how individuals could form judgments based on facial appearance would be to use a simple division by means of valence, so that individuals would favor excluding "bad"-looking individuals over "good"-looking individuals. However, previous research has suggested that a two dimensional model is more suitable to explain the process of facial evaluation (Oosterhof & Todorov, 2008). Typically, an individual's evaluations reflect both whether the evaluated person appears to have benevolent or hostile intentions, and whether he or she appears to have the capacity to fulfill these intentions. The idea that valence is not the only relevant dimension when making judgments is also a fundamental tenet of the stereotype content model (SCM; Fiske, Cuddy, & Glick, 2007; Fiske, et al., 2002), which states that individuals evaluate other groups and their members by means of the abovementioned two universal, independent dimensions. These dimensions are called warmth and competence in the SCM. Warm groups and their members are seen as good-natured, trustworthy, tolerant, friendly, and sincere, whereas competent groups and their members are characterized as capable, skillful, intelligent, and confident (Cuddy, Fiske, & Glick, 2008).

Regarding social exclusion, the warmth/competence distinction has been shown to be of importance when individuals make attributions about why they were excluded *themselves.* Çelik, Lammers, van Beest, Bekker, and Vonk (2013) demonstrated that participants who

believed that they were being excluded because they lacked competence reacted with anger, which is an emotional response motivated by the desire to compete and to restore one's status. Individuals who believed they were being excluded due to a lack of warmth, on the other hand, reacted with sadness, supposedly because demonstrating sadness evokes the sympathy of others.

In contrast, the present research focuses on the effects of warmth and competence perceptions when individuals judge the exclusion of *others*. But do individuals actually base their judgment of whether it is acceptable or not to exclude a person on perceptions of warmth and competence? The SCM predicts that an observer's emotional reactions towards others differ, depending on how the object of one's attention is rated on both dimensions (Fiske, et al., 2002). We will first elaborate on the different combinations of warmth and competence and their related emotions and then explain how these emotional responses may influence subsequent moral judgments.

First, individuals seen as both cold and incompetent usually evoke feelings of disgust and contempt, since they are seen as exploitative and "openly parasitic" (Cuddy, et al., 2008, p. 78). This is due to two reasons: a) their goals are seen as being incompatible with others, and b) they are unable to contribute to the group in a meaningful way. Accordingly, they tie up resources and therefore are most likely to be a burden for any group. Consequently, members of stereotypically cold and incompetent groups (e.g., homeless people) are most likely to be met with active harm. This goes so far that they are often excluded from normal societal life and exist at the edge of society or even beyond (Cuddy, et al., 2008)

Second, individuals who are seen as incompetent, but warm, are typically well liked, and evoke feelings of pity and sympathy (Fiske, et al., 2007). They represent no competition and their goals are compatible with the goals of the perceiver, even though they may not have the capacity to contribute meaningfully to a group. Because these individuals are perceived as friendly and likeable but also helpless, they are also most likely to receive active help when in

need (Fiske, et al., 2007). In other words, society strives to protect these individuals from harm and exclusion.

Finally, individuals who are perceived as competent are usually met with respect, because they are seen as able, intelligent, skillful, and efficient. More specifically, individuals high in both warmth and competence evoke feelings of admiration, while individuals seen as competent, but cold, typically evoke envy and jealousy.

Here we propose that inferences about the warmth and competence of a target person and the related emotional response will affect an individual's moral judgment about how acceptable exclusion of this person is. Combining research on group stereotypes with research on facial cues, we investigate two specific predictions regarding the interplay of the two dimensions: First, a systematic bias against cold-and-incompetent looking persons and, second, a bias in favor of warm-and-incompetent looking individuals. These specific predictions will be elaborated in the following:

We propose that individuals will judge it as most acceptable to exclude a *cold-and-incompetent* looking person. The SCM predicts that people that are perceived as low in both competence and warmth are most likely to be recipients of active attacks and passive neglect (Fiske, et al., 2007), which might go so far that they are sometimes not even granted a part in societal life (e.g., homeless people). In an adaption of the trolley track problem, Cikara and colleagues (2010) demonstrated that participants found it to be most acceptable to kill targets perceived as both cold and incompetent in order to save others. In the authors' own words, these persons become "targets of relative moral exclusion" (p. 410). Building on these results, we hypothesize that individuals would also judge it as most acceptable if a group *socially* excludes a cold-and-incompetent looking person.

Moral judgment about exclusion might further depend on considerations such as the capability of the excluded targets to get along on their own. This might be particularly hard for *warm-and-incompetent* persons, which is why we further predict that it will be perceived

as least acceptable to exclude a person who looks warm but incompetent. Moreover, the primary emotions evoked by a warm-and-incompetent person are sympathy and pity, which are also the central emotions that (innocent) victims of ostracism are typically met with (Wesselmann, Wirth, et al., 2013). For this reason, excluding a warm-and-incompetent looking member from a group might be perceived as especially cruel and should be judged as least acceptable.

We further expect that the acceptance for excluding *competent*-looking individuals (both low and high in warmth) would fall somewhere in the middle between the acceptability of excluding cold-and-incompetent-looking targets and warm-and-incompetent looking targets. Different from incompetent persons, competent persons generally have high value to a group, so it might be a mistake to exclude them. However, competent people might get along alone as well or have no trouble finding a new group, so it is also not necessarily as cruel to exclude them.

Taken together, we investigate three primary hypotheses: First, we predict that faces matter when individuals make judgments about how acceptable social exclusion is. Second, we predict that acceptability of social exclusion varies based on how warm and competent the target of social exclusion looks. More specifically, we propose that individuals will perceive it as most acceptable to exclude a person who is cold-and-incompetent looking and least acceptable to exclude a person who is warm-and-incompetent looking (Studies 1 - 3). Third, we predict that the effect of facial appearance on moral judgment is mediated by the emotional response that individuals have to these faces. Specifically, we assume that the higher acceptability regarding the exclusion of cold-and-incompetent looking individuals will be mediated by feelings of disgust, whereas lower acceptability regarding the exclusion of warm-and-incompetent looking individuals will be mediated by feelings of pity (Study 3). Additionally, we investigate boundary conditions, particularly whether ostracism depends on how the excluding group is typically imagined (Studies 1 and 2).

Face Manipulation

Faces were manipulated using the Basel Face Model (BFM), a multidimensional statistical face space derived from 200 3D scans of real faces (Paysan, Knothe, Amberg, Romdhani, & Vetter, 2009). Every face scan is represented as a point in this space (Blanz & Vetter, 1999), the dimensions of which correspond to the characteristics that are used to discriminate between faces. Using previously collected warmth and competence judgments regarding most of the 200 3D scans, we were able to identify the dimensions (i.e., vectors) in the face space with maximum variability regarding perceived warmth and competence (Walker & Vetter, 2016). These vectors were then simultaneously applied to sixteen male faces from the Radboud Faces Database (Langner et al., 2010) using an analysis-by-synthesis approach (for details and validation data regarding this method, see Walker & Vetter, 2016). The manipulated faces are perceived as more or less competent as well as more or less warm, resulting in four combinations for every face (warm-and-competent, warm-and-incompetent, cold-and-competent, cold-and-incompetent; see *Figure 1*).

Based on our experience with independent studies using the same method of subtle face manipulation, we opted for an initial sample size of 160 participants in Study 1. Because this guess turned out to be adequate, we decided not to reduce sample size in Studies 2 and 3.

Pilot Study

To ensure that participants would accurately observe the warmth and competence manipulation in the different faces, the material was validated in a pilot test (Reutner, Stutz, & Walker, 2016). One hundred fifteen participants on Amazon Mechanical Turk (M_{age} = 33.51, *SD* = 11.04; 54 women, 59 men, 2 other) were presented with two versions of the same face, differing both in warmth and competence (see *Figure 1* for an illustration). Participants then indicated which of the "twin" portraits seemed more competent or warmer. In total, participants were shown 32 manipulated "twin pair" faces in random order. The pilot test was originally conducted for a different set of studies (Reutner, et al., 2016) and included both

male and female faces (no interaction between participant and target gender, $F < 1$). In the present studies, however, we used male faces only for reasons of test efficiency; the following analyses are therefore confined to male faces.

The overall percentage of correct judgments was calculated and tested against chance-level (50% correct judgments). On average, participants were able to correctly detect which face was manipulated to appear more competent or warmer than its "twin"; $t(114) = 16.10$, $p < .001$, $d = 3.02$. On a more fine-grained level, this was true for both warmth judgments, $t(114) = 16.18$, $p < .001$, $d = 3.03$, and competence judgments, $t(114) = 3.34$, $p = .001$, $d = 0.63$.

Study 1

Study 1 aimed to investigate whether participants' judgment on how acceptable it is to exclude a person from a group depends on how warm and competent this person looks. To do so, we presented participants with the 16 pre-tested male faces that were manipulated on the dimensions "warmth" and "competence." We predicted that individuals would perceive it as most acceptable to exclude a person who is cold-and-incompetent looking and least acceptable to exclude a person who is warm-and-incompetent looking.

Implicit to this prediction is that *those who exclude* (henceforth referred to as the *sources* of ostracism) are perceived in a negative way, which corresponds to research showing that observers tend to dislike it when individuals are ostracized without an apparent reason (Wesselmann, Wirth, et al., 2013). What happens, however, if those sources are high in both warmth and competence, such as members of one's ingroup (Cikara, et al., 2010; Fiske, et al., 2002)? In this situation, stereotypical perceptions of ostracizers (low in both warmth and competence) and of ingroup members (high in both warmth and competence) are in conflict. One prediction could be that inferences based on group membership trump inferences based on behavior, so that acceptability judgments should vary as a function of group membership. Alternatively, one could argue that inferences based on behavior are dominant, and hence that

ingroup/outgroup assignment has little effect. We tested these competing speculations in an exploratory manner by labeling the excluding group as either ingroup or outgroup.

Participants

We recruited 160 participants (M_{age} = 34.51, *SD* = 12.67) from Amazon Mechanical Turk (93 male, 65 female, 2 not specified). All participants were U.S. citizens. They were randomly assigned to either the ingroup or the outgroup condition, which resulted in a 2 (target warmth: high vs. low) x 2 (target competence: high vs. low) x 2 (group: ingroup vs. outgroup) mixed factorial design with the first two factors as repeated measures.

Materials and Procedure

All participants were instructed to imagine a group that has decided to exclude one of its members. Instructions varied in whether participants were supposed to imagine themselves as a part of the group (ingroup condition) or not (outgroup condition). Participants were told that they would be presented with face portraits of persons who had been excluded from the/their group and that their task would be to judge how acceptable the exclusion of each person was (see *Appendix 1* for the exact instructions).

To get accustomed to the speed of the task, participants were first exposed to three practice trials with unmanipulated portraits. Subsequently, participants were presented with 16 manipulated faces in total, with four faces each representing one of the four possible combinations of warmth and competence. We counterbalanced between participants which face represented which combination.

For each trial, participants were shown the face of the excluded person for 2 seconds. After that, participants had 4 seconds to decide how acceptable the group's action had been (1 = not at all, 4 = very). To reinforce the ingroup/outgroup manipulation, we varied between groups whether the question referred to "your group" (ingroup condition) or "the group" (outgroup condition). Subsequently, the next picture was presented. After participants had completed all 16 trials, they were asked as a manipulation check whether they had been a

member of the group themselves in the situation they had imagined. Finally, participants provided demographics and were thanked and paid for participation.

Results

Manipulation check. Seventy-eight percent of the participants answered the question of whether they had been a member of the group themselves correctly. Most individuals who gave a wrong answer were members of the outgroup condition who had instead thought about an ingroup. Running the analysis without participants who failed to answer the manipulation check correctly as well as running the analysis according to perceived group membership rather than the manipulated group membership neither changed the significance levels nor the pattern of results, which is why the analyses reported in what follows are based on the full sample of participants.

Moral judgments. We fitted a mixed linear model with acceptability as the dependent variable using the *lme4* (Bates, Maechler, Bolker, & Walker, 2015) and the *lmerTest* package (Kuznetsova, Brockhoff , & Christensen, 2016) in *R* (R Core Team, 2014). Group membership, warmth, competence and the respective interactions were included into the model as fixed effects, while both participants and faces were treated as random effects. This procedure is advantageous because it accounts for sampling variability of both stimuli and participants (Judd, Westfall, & Kenny, 2012). Aiming for a maximal linear mixed model (Barr, Levy, Scheepers, & Tily, 2013), we included both random intercepts for participants and faces as well as random slopes for warmth, competence, and the warmth x competence interaction based on participants and faces in the model (see *Appendix 2*).

An ANOVA revealed a significant effect for warmth, $F(1, 17.54) = 27.97$, $p < .001$. More crucial to our hypothesis, the warmth x competence interaction was significant, $F(1, 121.55) = 22.82$, $p < .001$, suggesting that the perceived acceptability to exclude a target differs due to the perceived warmth and competence of the target's face. Competence and group membership, and all other statistically possible interactions were not significant, *p*

> .227. Moreover, post-hoc analyses yielded no effect of or interactions with participants' gender.

In order to decompose the predicted interaction, we defined two contrasts to test our specific prediction that the exclusion of warm-and-incompetent looking individuals would be judged as least acceptable (contrast weights: 0 1 0 0) and the exclusion of cold-and-incompetent looking individuals would be perceived as most acceptable (contrast weights: 0 0 0 1). Both contrasts were significant, b = -.21, $t(106.58)$ = - 6.71, $p < .001$ and b = .23, $t(16.91) = 5.97$, $p < .001$. Participants judged it to be less acceptable to exclude a warm-and-incompetent looking person ($M_{warm/incompetent}$ = 2.13, SD = 1.05) and more acceptable to exclude a cold-and-incompetent looking person ($M_{cold/incompetent}$ = 2.47, SD = 1.12); in each case compared to the average of the three respective other combinations ($M_{warm/competent}$ = 2.25, SD = 1.06; $M_{cold/competent}$ = 2.32, SD = 1.11). The results are displayed in *Figure 2a*.

Discussion

The results of Study 1 support our first hypothesis that participants make use of facial features and derive information about a person's perceived warmth and competence in order to determine whether it is acceptable to exclude this person from a group. Moreover, supporting the second hypothesis, participants judged it as most acceptable to exclude a cold-and-incompetent looking person and as least acceptable to exclude a warm-and-incompetent looking person. These findings are in line with the SCM, which predicts that cold-and-incompetent persons evoke feelings of disgust and contempt and are therefore expendable for a group. In contrast, warm-and-incompetent persons evoke feelings of sympathy and pity, which is why it might be perceived as exceptionally cruel to exclude them from a group they depend on.

There was no effect of whether participants imagined the group to be their outgroup or ingroup. Though we tested group assignment in an exploratory manner only, we briefly discuss potential reasons for this null effect. First, the chosen manipulation may have been too

subtle and created a "minimal group" at best. Possibly, different results might be found for a more significant group distinction, such as cultural background. Second, differentiating between ingroup and outgroup may not be enough, because impression formation might go beyond pure valence evaluations on a good-bad or ingroup-outgroup distinction (Fiske, et al., 2002). Moral decisions in particular may depend on other considerations than mere liking, and “may be more complicated than simply benefitting the ingroup at the expense of the outgroup” (Cikara, et al., 2010, p. 405; see also Cuddy, et al., 2008). Finally, it is possible that participants in the ingroup-condition did not identify with their group (Tajfel & Turner, 1979), and therefore perceived the group in a similarly negative way as the outgroup, namely low on both the warmth and the competence dimension. This is especially likely because individuals might wish to distance themselves from a group that excludes others.

Taken together, there are several methodological and theoretical reasons for why labeling the sources as ingroup/outgroup did not change the pattern of acceptability ratings. Nevertheless, the question remains whether acceptability ratings towards the targets depends on the sources of exclusion. Study 2 investigates this question in a more direct way, namely by presenting the sources and manipulating their faces in the same way as the targets’.

Study 2

Study 2 seeks to further investigate whether not only the face of the excluded target, but also the excluding sources matter. Whereas Study 1 used a subtle designation of ingroup/outgroup membership, Study 2 directly manipulates facial characteristics of those who exclude. Assuming that participants in Study 1 imagined the excluding sources as both low in competence and warmth irrespective of group membership, the pattern found in Study 1 should replicate best when the sources are manipulated to look low in both warmth and competence. Among others, such a finding would allow for conclusions about the stereotypical facial characteristics of those who exclude.

To test this proposition, in Study 2 we presented participants with both manipulated faces of the excluded targets as well as manipulated faces of the excluding sources. We predicted that the interaction effect of target's warmth and competence that we found in Study 1 would be qualified by the sources' appearance.

Participants and Design

We recruited 160 U.S. participants (M_{age} = 36.86, *SD* = 11.54) from Amazon Mechanical Turk (76 male, 82 female, 2 not specified). All participants were randomly assigned to a 2 (target warmth: high vs. low) x 2 (target competence: high vs. low) x 4 (sources: warm/competent vs. warm/incompetent vs. cold/competent vs. warm/incompetent) within-subject design.

Material and Procedure

As in Study 1, participants were presented with four target faces per warmth/competence combination, resulting in a total of 16 presented target faces. In addition, the faces of the excluding group (i.e., the sources of ostracism) were manipulated and shown as well. The sources consisted of three different faces that were manipulated with the same warmth/competence combination. In total, this resulted in 16 possible target/source combinations (e.g., a cold-and-incompetent looking group excluding a warm-and-incompetent looking target).

In order to prevent random judgments due to fatigue of participants, we opted to restrict the number of judgments to the same number as in Study 1, that is, 16 judgments in total. Consequently, in Study 2 each possible target/source combination was represented by a single judgment per participant. Because the 16 faces served both as targets and as sources (but never in the same trial), participants saw each stimulus person face four times during the study. Each of the four times it was manipulated with a different warmth/competence combination. Assignment of stimulus faces to the sources and targets as well as to the manipulations were counterbalanced between participants.

Because the subject (who is excluding) logically precedes the object (who is being excluded), in each trial we presented the group first and then the excluded individual. Specifically, in each of the 16 trials, participants were first presented with the faces of the excluding group for 2 seconds. After that, participants were presented with the face of the excluded person for 2 seconds and had to decide within 4 seconds how acceptable the group's action had been.

Results

Similar to Study 1, we fitted a mixed linear model with acceptability as the dependent variable, target warmth, target competence, the sources and all possible interactions as fixed effects, and participants and faces as random effects. Subsequently, we tested our predictions with several specified contrasts as detailed below. Note that sources were entered into the analysis as one factor with four levels instead of two factors with two levels. This choice was made to test for general differences between the sources before investigating in which of the four groups of sources the predicted target warmth x competence interaction would show. We included random intercepts for participants, target faces and each of the three source faces as well as random slopes for target warmth x competence and the sources based on participants and the respective faces (see *Appendix 2*).

The analysis revealed a main effect of the target's warmth, $F(1, 36.74) = 13.38$, $p < .001$. Neither the main effect of competence, $F(1, 46.80) = 0.92$, $p = .343$, nor of the sources were significant, $F(3, 6.85) = 1.93$, $p = .215$. The two-way target warmth x competence interaction $F(1, 12.74) = 4.29$, $p = .059$ was consistent with Study 1, even though it did not reach the conventional level of significance. Crucially, however, the analysis revealed the predicted significant three-way sources x target warmth x target competence interaction $F(3, 40.28) = 4.34$, $p = .010$. This indicated that the pattern of target warmth and competence differed depending on what the sources of ostracism looked like. All other possible interactions were not significant, $F < 1$.

Target's warmth x competence. Because the pattern of means in Study 2 matches the one found in Study 1**,** we decomposed the target warmth x competence interaction with the same two two pre-defined contrasts as in Study 1, testing high warmth / low competence (0 1 0 0) and low warmth / low competence (0 0 0 1) against the average of the three respective other combinations. Both contrasts were significant, b = -.15, $t(18.42)$ = - 3.61, p = .002, and $t(15.34)$ = 2.42, p = .003, respectively. Replicating Study 1, excluding a cold-and-incompetent looking person was considered to be more acceptable (M = 2.12, SD = 1.15) and excluding a warm-and-incompetent looking person to be less acceptable (M = 1.93, SD = 1.09); in each case compared to the average of the other three combinations ($M_{warm/competent}$ = 2.02, SD = 1.10, $M_{cold/competent}$ = 2.07, SD = 1.13).

Sources x target warmth x target competence. Because we were interested in how participants construe an excluding group without prior information, we decided to compare the pattern observed in Study 1 to the pattern obtained in each of the four source groups that represent stereotypical group members according to the SCM (Fiske, et al., 2002). To this end, we specified one contrast, using the z-standardized means from Study 1 as contrast weights (-.04 -.17 .03 .18), and tested this contrast separately in each of the four groups of sources (warm/competent, warm/incompetent, cold/competent, cold/incompetent), applying Bonferroni-corrections. The contrast was significant for cold/incompetent sources, b = .06, $t(462.52)$ = 4.17, $p < .001$, but not for any other group (warm/competent: b = .01, $t(8.03)$ = 0.64, p = 1.000, warm/incompetent, b = .03, $t(26.61)$ = 1.69, p = 1.000, cold/competent sources, b = .04, $t(10.00)$ = 2.06, p = .264. In line with our assumptions, the interaction pattern thus replicated best for the cold-and-incompetent looking sources. This suggests that the image of the sources of ostracism that participants in Study 1 had in mind was one of a cold and incompetent group. For the descriptive results, see *Figure 2 b - e*.

Discussion

Study 2 replicates and extends the results of Study 1. Again, in line with our first and second hypothesis, we found that participants judged it as less acceptable to exclude a warm-and-incompetent looking person and more acceptable to exclude a cold-and-incompetent-looking person from a group than other persons. Moreover, appearance of the excluding group moderates the effect of the target's looks on the acceptance rating. Specifically, the target warmth x competence interaction pattern observed in Study 1 replicated best when the sources were cold-and-incompetent looking. These results support the assumption that the stereotypical image of excluding groups is inherently negative. In particular, cold-and-incompetent individuals might represent the "stereotypical" group of ostracizers that individuals have in mind when judging the acceptability of social exclusion. This is especially the case when these cold-and-incompetent looking persons (that is, the stereotypical mean bullies) exclude a warm-and-incompetent looking person (that is, a helpless victim) from the group. Such a combination might represent the "stereotypical" unfair and morally wrong social exclusion situation, which evokes feelings of injustice and anger in observers. Supporting this assumption, the above-mentioned combination (sources: cold-and-incompetent, target: warm-and-incompetent) received the lowest acceptance rating of all 16 possible combinations ($M = 1.78$, $SD = 1.04$).

When the excluding group was warm and competent, there was no influence of the target's facial appearance on moral judgment. Possibly, warm-and-competent looking sources do not match the default stereotype of an ostracizing group. Indeed, the subjective construals of a warm and competent group (normally met with admiration, Fiske, et al., 2002) and a despicable act such as excluding someone are likely incongruent and might thus interrupt or impede the automatic processing that is typical for the use of stereotypes (Blair & Banaji, 1996). As a result, the use of the target's facial appearance as a cue might be impeded and observers may be less likely to rely on the target's facial appearance for moral judgment.

We conducted Study 2 to investigate participants' mental image of stereotypical social excluders. Our results suggest that cold and incompetent sources possibly match the image of a stereotypical excluder best. Next, we turn to a different question, namely the underlying process that mediates the effect of facial appearance on moral judgment.

Study 3

Studies 1 and 2 provide support for the hypothesis that the moral acceptability of social exclusion depends on the appearance of the excluded person's face, but do not reveal much about the underlying process. Building on SCM literature (Cuddy, et al., 2008; Fiske, et al., 2007), we hypothesized that certain facial appearances elicit different emotions in observers and that these emotions affect moral judgment. Specifically, we assumed that warm-and-incompetent faces would evoke feelings of pity, which would result in low acceptability ratings. In contrast, cold-and-incompetent faces should evoke feelings of disgust, and therefore excluding these persons should be perceived as more acceptable. In statistical terms, both pity as well as disgust are hypothesized to act as mediators of the relation between warmth/competence and acceptability. We test this meditation hypothesis in Study 3.

Participants and Design

We recruited 160 US participants from Amazon Mechanical Turk. Two participants indicated that they did not want their data to be analyzed, which is why the final sample consisted of 158 participants (92 male, 66 female; M_{age} = 33.87, SD = 9.37). All participants were assigned to a 2 (target warmth: high vs. low) x 2 (target competence: high vs. low) within-subject design.

Material and Procedure

We used the same 16 faces as in Studies 1 and 2. First, participants were shown each of the 16 faces and told to indicate how often they thought that the respective person evoked the following feelings in others in everyday life: Pity (sympathy, pity; r = .64), Disgust (disgust, contempt; r =.60), Envy (envy, jealousy; r =.76), and Pride (pride, admiration; r

=.68). Note that the phrasing of the instruction was meant to lower the amount of socially desirable answers but still tap into participant's spontaneous emotions when seeing the faces. The four emotions were assessed with two items each (Cuddy, et al., 2008). We placed this assessment first, because a) measuring the mediator before the dependent variable appears advisable on logical as well as methodological grounds and b) in line with most SCM literature, we aimed to measure emotions that were evoked by the mere presentation of faces, separate from the context of exclusion (Cuddy, et al., 2008). After participants rated emotional responses towards the faces, they saw all faces for a second time and judged how acceptable it was to exclude this person from a group (procedure as described in Study 1).

Results

Moral judgments. As in Studies 1 and 2, we fitted a mixed linear model with acceptability of exclusion as the dependent variable. Warmth, competence, and the interaction were included as fixed effects. Participants and faces were treated as random intercepts. Additionally, random slopes for warmth, competence, and the interaction based on participants and faces were included (see *Appendix 2*).

An ANOVA revealed a significant effect of warmth, $F(1, 17.96) = 21.33$, $p < .001$. This main effect was qualified by the predicted warmth x competence interaction, $F(1, 30.78) = 25.96$, $p < .001$ suggesting that the perceived acceptability to exclude a target differs due to the perceived warmth and competence of the target's face. There was no significant effect of competence, $F(1, 18.24) = 1.12$, $p = .301$. These results mirror the results of Studies 1 and 2.

Consistent with the previous studies, contrasts confirmed that the exclusion of a warm-and-incompetent looking person was deemed less acceptable ($M_{warm/incompetent} = 2.03$, $SD = 1.06$) compared to the average of all other warmth and competence combinations, $b = -.27$, $t(241.57) = -7.77$, $p < .001$. The exclusion of a cold-and-incompetent looking person was again deemed more acceptable ($M_{cold/incompetent} = 2.39$, $SD = 1.16$), $b = .21$, $t(18.50) = 5.53$, $p < .001$, compared to the average of all other warmth and competence combinations

($M_{warm/competent}$ = 2.26, *SD* = 1.06; $M_{cold/competent}$ = 2.25, *SD* = 1.13). Means with standard errors are presented in *Figure 3a*.

Emotions. To investigate the factorial structure that underlies the emotion ratings of the faces, we analyzed the emotion items with a PCA. This resulted in a three-factor solution, with envy and pride loading on the same factor and pity and disgust items on separate factors. The result might represent the fact that pride and envy are complex emotions that are difficult to distinguish based on the mere presentation of a face. Nevertheless, the obtained factor pattern allows for testing our main hypotheses that disgust and pity mediate the effect of facial appearance on moral judgment. Although a clear distinction between envy and pride might have been further useful for reasons of exploration, it is not central to the present context.

Mediation via emotions. We hypothesized that the effect of warmth and competence on acceptability would be mediated by differences in the emotions elicited by the different manipulations. More specifically, we assumed that the effect of cold-and-incompetent individuals would be mediated by disgust, whereas the effect of warm-and-incompetent individuals on acceptability would be mediated by pity. All reported models are maximal linear mixed models including random intercepts for both participants and faces as well as random slopes for the respective contrasts as well as the mediators. Note that in the following models, all cases with missings on acceptability were excluded from the analyses (110 out of 2528). We tested for mediation using the joint significance test, which builds on the premise that if both a and b are significant, so is the indirect effect a x b (Fritz, Taylor, & MacKinnon, 2012; Fritz & MacKinnon, 2007). To calculate confidence intervals, we repeated the analyses with *Mplus*, using a Cross Classified Analysis with faces and participants as random effects. Confidence intervals were calculated with the Delta Method (Muthén & Muthén, 1998-2015). See *Figure 4* for the respective path models.

Disgust. For disgust, there was a significant effect of warmth, $F(1, 37.22) = 26.26$, $p < .001$ that was qualified by the significant warmth competence interaction, $F(1, 16.63) = 14.38$, $p = .002$. As predicted, disgust was highest for cold-and-incompetent faces ($M_{cold/incompetent} = 2.24$, $SD = 1.08$). Generally, the pattern of means was similar to the mean pattern of acceptability, with warm-and-incompetent faces evoking the least disgust. ($M_{warm/competent} = 2.09$, $SD = 1.03$; $M_{warm/incompetent} = 1.94$, $SD = 1.00$; $M_{cold/competent} = 2.13$, $SD = 1.11$), see also *Figure 3b*. The cold-and-incompetent contrast was significant for disgust, $b = .19$, $t(133.57) = 5.88$, $p < .001$ (path a of the mediation). To test path b, we ran a regression analysis testing the effect of disgust on acceptability while controlling for the cold/incompetent contrast. Path b was significant, $b = .27$, $t(147.43) = 9.15$, $p < .001$. Disgust thus mediates the effect of cold and incompetent looking faces on acceptability (indirect effect = 0.05, 95% CI = [0.04, 0.07]).

Pity. For pity, there was a non-significant effect of competence, $F(1, 22.18) = 4.30$, $p = .054$, as well as a non-significant warmth x competence interaction, $F(1, 18.43) = 4.01$, $p = .060$. Testing the warm-and-incompetent faces against the average of all other conditions, the effect of the contrast was not significant, $t(15.05) = 0.38$, $p = .709$. Also, the pattern of the descriptive values does not match our prediction that pity should be highest for warm-and-incompetent faces. See *Figure 3c* for means and standard errors. The regression of acceptability on pity while controlling for the warm/incompetent contrast was not significant either, $t(74.29) = 0.43$, $p = .667$.

Exploratory Analysis. Exploratory post-hoc analyses revealed that instead of pity, the effect of warm-and-incompetent faces on acceptability was best described as mediated via disgust as well (Path a: $b = -.21$, $t(22.42) = -5.81$, $p < .001$, Path b: $b = .26$, $t(144.82) = 9.09$, $p < .001$; indirect effect = - 0.05, 95% CI = [-0.07, - 0.04]).

Discussion

Study 3 replicates the pattern for moral judgments that we found in the previous studies, with the lowest acceptability for excluding warm-and-incompetent looking individuals and the highest acceptability for excluding cold-and-incompetent looking individuals. Our primary hypothesis in Study 3, however, was to test the prediction that the effect of the warmth/competence manipulation on moral judgments was mediated via specific emotions elicited by the different faces. We find that the emotional responses to warm-and-incompetent faces are mainly characterized by a lack of disgust, whereas cold-and-incompetent faces seem to evoke both disgust and pity. The presence or absence of disgust is an important mediator when people make judgments about the acceptability of social exclusion based on facial appearance. Contrary to our prediction, however, pity was not a significant mediator.

Why is it that disgust seems to be more important than pity when making moral judgments that are based on faces? Because our focus was on first impressions and we wanted to measure the influence of emotion on acceptance of exclusion and not vice versa, we assessed emotions prior to the exclusion scenario. The elicited emotions were thus context-independent and represented spontaneous reactions to faces that participants had never seen before. Taking this context-independency of the emotions into account, one could speculate that primary emotions like disgust are more likely to be spontaneously elicited by faces than pity. In particular, disgust might be directly elicited by the mere sight of a cold-and-incompetent looking person (or be absent at the sight of a warm-and-incompetent one), and thus influence a subsequent moral judgment about how acceptable it is to exclude this person. Pity, however, might require more contextual information than the mere presentation of a warm-and-incompetent face. Most people might not assume that something bad happens to a warm-and-incompetent looking person in the first place, which is why there is no reason to feel pity when merely being presented with the portrait of a warm-and-incompetent looking

face (e.g., pity is usually not the first emotion when seeing a child). Together these considerations may explain why pity did not act as a mediator in the present study.

Under what conditions may pity act as a mediator? Possibly, in cases where there is a contextual trigger for pity (e.g., the target person is ostracized or otherwise in distress), the observer might feel strong pity for a warm-and-incompetent looking person, and thus judge it as unacceptable when that person is ostracized. From this perspective, it might have been advantageous to assess emotional responses in the context of social exclusion. However, a potential disadvantage of this procedure is that it might have compelled participants to answer in a socially desirable way and to report a high amount of pity for all of the targets. Moreover, most SCM studies have assessed emotional responses to groups context-independently, since the SCM proposes *generalized* emotional responses these groups (Cuddy, et al., 2008). Interestingly, despite our assessment of the emotions being similar to other SCM studies, our results nevertheless differ. For instance, Cuddy and colleagues (2008) demonstrated that warm and incompetent groups elicit emotions of pity whereas cold and incompetent groups elicit disgust. But are emotions that are related to groups really as context-independent as emotions related to faces? Most individuals may have previous experiences and thus an implicit concept of specific groups (such as homeless people, the elderly, etc.). Therefore, they might associate these groups with specific emotions (such as pity for old and frail persons who are seen as helpless and deserving protection, or disgust for groups that are seen as useless and destructive for society). In contrast, for a specific face that an individual has never seen before, there is no previously existing context. This is why it is likely that context-independent, primary emotions such as disgust are of a higher importance when making judgments based on faces alone.

General Discussion

Ostracism is a ubiquitous phenomenon that can happen in a variety of situations and for many different reasons. This poses a challenge to observers who have to decide whether to

assist the ostracized person or not. Especially if observers need to make a moral judgment quickly and without effort, it is likely that they will rely on simple cues and heuristics. One very salient cue is the face of the excluded person. Here we suggest and empirically substantiate in three studies that the appearance of a person's face can influence how acceptable it is to exclude this person from a group. In line with the stereotype content model (Fiske, et al., 2002), we further demonstrate that the acceptability of exclusion varies depending on how warm and competent the target's face appears to be (Studies 1 – 3). On the one hand, it is perceived as more acceptable to exclude cold-and-incompetent looking others. On the other hand, we found low acceptance rates for excluding warm-and-incompetent looking others. These effects are mediated by feelings of disgust that are evoked by the faces (Study 3). As a default assumption, participants further appeared to picture the excluding group as incompetent and cold (Study 2), which is in line with previous research suggesting that observers normally dislike and disapprove of ostracism (Wesselmann, Wirth, et al., 2013). Power analyses with PANGEA (Westfall, 2015) conducted ex post suggest that the power for the detection of the warmth x competence interaction was > .90 in all studies, given a default effect size of d = .45 (note that standard effect sizes cannot be calculated for random effect models).

Complex judgments based on facial perceptions

Despite using a subtle facial manipulation we observed reliable effects, and the same pattern replicated across three studies. Of course, in a real-life setting observers usually have more cues to draw inferences from. Nevertheless, even in situations with a more complex context and more cues to draw inferences from, facial features represent an important and particularly salient part of the first impression that is hard to ignore (Bindemann, et al., 2005; Cerf, Harel, Einhäuser, & Koch, 2008; Hassin & Trope, 2000; Ro, et al., 2001). Because of the stability of first impressions due to mechanisms such as self-fulfilling prophecies and the confirmation bias, it is plausible that facial features will even continue to influence moral

judgments indirectly even if more valid cues might be available (Rule, 2014). An excluded person could, for instance, try to argue with the group about why he or she was being excluded, or simply leave the group without saying anything. If the excluded person looks cold-and-incompetent, however, in light of this first impression such behavioral reactions might more likely be interpreted as negative, hostile or disinterested by an observer than if the person was warm-looking.

The differentiated, yet stable pattern of observed results also speaks against a general "positivity bias" of our participants. If that was the case, the exclusion of a warm-and-competent looking group member should have been least acceptable, because persons who score high on both variables are typically evaluated most positively. However, this was not the case. Participants in all three studies judged it as less acceptable to exclude warm-and-incompetent than warm-and-competent looking persons, which speaks for a more refined judgment process than a simple decision of whether the excluded individual is "good" or "bad".

Moral Judgment of Social Exclusion and other Aggressive Acts

We have demonstrated that facial perceptions of warmth and competence affect the moral judgment of social exclusion and further pointed out two specific biases (against cold-and-incompetent looking persons and in favor of warm-and-incompetent looking persons). An important question is whether the observed pattern is specific for social exclusion, or whether it generalizes to other acts of aggression in a broader sense. In line with our findings from Study 1, a study that used the trolley track moral dilemma in which the target is killed to save others (Cikara, et al., 2010), found a negative bias against groups which were perceived to be both cold and incompetent, such as homeless people or drug addicts. However, in the study by Cikara and colleagues, there was no positive bias in favor of warm-and-incompetent groups, which we demonstrated for warm-and-incompetent looking faces in the present studies. Presumably, this is due to the different settings: When judging the acceptability of exclusion,

participants might have felt that competent-looking persons might do well without a group or that they may easily find another one to join, compared to an incompetent but warm individual who needs special protection for that reason. For obvious reasons, these considerations do not hold when judging how acceptable it is to kill a person for the sake of others, as participants did in the study by Cikara and colleagues (2010). Cold-and-incompetent persons, however, might be perceived as expendable in any situation – both for a specific group as well as for society in general.

The Importance of Facial Appearance for Social Exclusion Research

The present results have important implications for studies on social exclusion and ostracism, since they indicate that the facial appearance of sources as well as targets can influence how ostracism is perceived by observers or potential sources of ostracism. So far, however, most studies on social exclusion have been conducted using paradigms with anonymous participants, such as in the widely used Cyberball paradigm (Williams, Cheung, & Choi, 2000), where sources as well as targets of ostracism are depicted as little stick men with only rudimentary facial features. Newer versions of Cyberball include the option to upload photos representing the player, so therefore it might be interesting to investigate systematic effects of individuating features such as facial appearance on how participants perceive ostracism.

In addition to moral judgments of observers, it might further be interesting to investigate the effect of source's faces on perceptions and reactions of the targets themselves. For instance, there is an ongoing debate in social exclusion research about the circumstances under which targets react to social exclusion with anger and aggression towards the sources or whether they try to reconcile with the group that has just excluded them (e.g., Çelik, et al., 2013; Maner, DeWall, Baumeister, & Schaller, 2007; Williams, 2009). Related to this debate, the Behavior from Intergroup and Affective Stereotypes (BIAS) map predicts that individuals tend to react with active harm towards individuals perceived as cold and with active

facilitation to individuals perceived as warm (Cuddy, et al., 2008). Accordingly, it could be possible that individuals react more aggressively when they are being ostracized by cold-and-incompetent looking others, but more prosocially when they are being excluded by warm-looking individuals. The present studies further indicate that participants who do not see any faces at all (as is the case in a standard Cyberball game) might stereotypically tend to imagine excluders as cold-and-incompetent people and therefore react towards them with hostility. This might be a possible explanation as to why previous research has usually found stronger evidence for aggressive than prosocial reactions following social exclusion (Williams, 2009).

Consequences: Bystander Intervention, Public "Shaming"

A person's moral judgment about whether exclusion is acceptable or not might have severe behavioral consequences. A typical example may be situations of bystander intervention (Latané & Darley, 1969), in which an observer's moral judgment about a situation might be critical for the decision about whether he or she should assist and support the excluded person, or sympathize with the excluding group and give the cold shoulder to the victim as well. Given that facial cues lack objective validity (Hassin & Trope, 2000; Olivola & Todorov, 2010), the finding that people nevertheless use them for making judgments about social exclusion and also show agreement in the way that they use them, might be alarming: For instance, someone who observes the exclusion of a target perceived to be cold-and-incompetent based on appearance might choose not to act but to ignore the target. Moreover, an observer might side with and protect a target that has actually harmed the excluding group before, just because he or she is perceived as both warm and incompetent. Such misjudgments could for instance be problematic regarding cyberbullying on social networks such as Facebook or displays of social exclusion in the media (e.g., in reality TV or reports about current political affairs). In both examples, often the audience has neither the possibility nor the motivation to gather further information other than that which is displayed. Together with

the high anonymity in social media, the worst case might be unjustified public shaming of either the excluders or the excluding group, depending on what their respective faces look like.

Conclusions

Three studies demonstrate that (a) a person's facial appearance is important when making moral judgments about social exclusion and (b) that perceptions of warmth and competence particularly influence the acceptability of social exclusion: excluding warm-and-incompetent looking persons is perceived as least acceptable, whereas excluding cold-and-incompetent looking persons is perceived as most acceptable. Moreover, (c) the effect seems to be mediated via the emotion of disgust as a response to a person's facial appearance. The results thus indicate that in ambiguous situations, people's moral judgment about social exclusion of others may be driven by a short gaze at their faces.

References

Alterman, T., Luckhaupt, S. E., Dahlhamer, J. M., Ward, B. W., & Calvert, G. M. (2013). Job insecurity, work,family imbalance, and hostile work environment: Prevalence data from the 2010 National Health Interview Survey. *American Journal of Industrial Medicine, 56*(6), 660-669. doi: 10.1002/ajim.22123

Ballew, C. C., & Todorov, A. (2007). Predicting political elections from rapid and unreflective face judgments. *Proceedings of the National Academy of Sciences, 104*(46), 17948-17953. doi: 10.1073/pnas.0705435104

Bar, M., Neta, M., & Linz, H. (2006). Very first impressions. *Emotion, 6*(2), 269-278. doi: 10.10310.1037/1528-3542.6.2.2697

Barr, D. J., Levy, R., Scheepers, C., & Tily, H. J. (2013). Random effects structure for confirmatory hypothesis testing: Keep it maximal. *Journal of Memory and Language, 68*(3), 255-278. doi: 10.1016/j.jml.2012.11.001

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

Berry, D. S., & McArthur, L. Z. (1985). Some components and consequences of a babyface. *Journal of Personality and Social Psychology, 48*(2), 312-323. doi: 10.1037/0022-3514.48.2.312

Berry, D. S., & Zebrowitz-McArthur, L. (1988). What's in a face? Facial maturity and the attribution of legal responsibility. *Personality and Social Psychology Bulletin, 14*(1), 23-33.

Bindemann, M., Burton, A. M., Hooge, I. T. C., Jenkins, R., & De Haan, E. H. F. (2005). Faces retain attention. *Psychonomic Bulletin & Review, 12*(6), 1048-1053. doi: 10.3758/BF03206442

Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology, 70*(6), 1142-1163. doi: 10.1037/0022-3514.70.6.1142

Blanz, V., & Vetter, T. (1999). A morphable model for the synthesis of 3D faces. *Proceedings of the 26th annual conference on Computer graphics and interactive techniques, USA*, 187- 194.

Brewer, M. B. (1988). A dual process model of impression formation. In R. S. Wyer & T. K. Srull (Eds.), *Advances in Social Cognition.* Hillsdale, NJ: Erlbaum.

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*, 635-642. doi: 10.1016/j.jesp.2013.02.010

Cerf, M., Harel, J., Einhäuser, W., & Koch, C. (2008). Predicting human gaze using low-level saliency combined with face detection. *Advances in Neural Information Processing Systems, 20*, 241-248.

Cikara, M., Farnsworth, R. A., Harris, L. T., & Fiske, S. T. (2010). On the wrong side of the trolley track: Neural correlates of relative social valuation. *Social Cognitive and Affective Neuroscience, 5*(4), 404-413. doi: 10.1093/scan/nsq011

Cuddy, A. J., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in Experimental Social Psychology, 40*, 61-149. doi: 10.1016/S0065-2601(07)00002-0

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences, 11*(2), 77-83. doi: 10.1016/j.tics.2006.11.005

Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878-902. doi: 10.1037//0022-3514.82.6.878

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. *Advances in Experimental Social Psychology, 23*, 1-74. doi: 10.1016/S0065-2601(08)60317-2

Fiske, S. T., Neuberg, S. L., Beattie, A. E., & Milberg, S. J. (1987). Category-based and attribute-based reactions to others: Some informational conditions of stereotyping and individuating processes. *Journal of Experimental Social Psychology, 23*(5), 399-427. doi: 10.1016/0022-1031(87)90038-2

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*(3), 233-239. doi: 10.1111/j.1467-9280.2007.01882.x

Fritz, M. S., Taylor, A. B., & MacKinnon, D. P. (2012). Explanation of two anomalous results in statistical mediation analysis. *Multivariate Behavioral Research, 47*(1), 61-87. doi: 10.1080/00273171.2012.640596

Hales, A. H., Kassner, M. P., Williams, K. D., & Graziano, W. G. (2016). Disagreeableness as a cause and consequence of ostracism. *Personality and Social Psychology Bulletin*. doi: 10.1177/0146167216643933

Hassin, R., & Trope, Y. (2000). Facing faces: Studies on the cognitive aspects of physiognomy. *Journal of Personality and Social Psychology, 78*(5), 837-852. doi: 10.1037/0022-3514.78.5.837

Judd, C., Westfall, J., & Kenny, D. (2012). Treating stimuli as a random factor in social psychology: A new and comprehensive solution to a pervasive but largely ignored

problem. *Journal of Personality and Social Psychology, 103*(1), 54-69. doi: 10.1037/a0028347

Keating, C. F., Randall, D. W., Kendrick, T., & Gutshall, K. A. (2003). Do babyfaced adults receive more help? The (cross-cultural) case of the lost resume. *Journal of Nonverbal Behavior, 27*(2), 89-109. doi: 10.1023/A:1023962425692

Kelley, H. H. (1950). The warm-cold variable in first impressions of persons. *Journal of Personality, 18*(4), 431-439. doi: 10.1111/j.1467-6494.1950.tb01260.x

Kuznetsova, A., Brockhoff , P. B., & Christensen, R. H. B. (Producer). (2016). lmerTest: Tests in linear mixed effects models. R package version 2.0-30. http://CRAN.R-project.org/package=lmerTest.

Langner, O., Dotsch, R., Bijlstra, G., Wigboldus, D. H. J., Hawk, S. T., & van Knippenberg, A. (2010). Presentation and validation of the Radboud Faces Database. *Cognition & Emotion, 24*(8), 1377–1388. doi: 10.1080/02699930903485076

Latané, B., & Darley, J. M. (1969). Bystander "Apathy". *American Scientist, 57*(2), 244-268.

Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as energy-saving devices: A peek inside the cognitive toolbox. *Journal of Personality and Social Psychology, 66*(1), 37-47. doi: 10.1037/0022-3514.66.1.37

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. doi: 10.1037/0022-3514.92.1.42

Masten, C. L., Morelli, S. A., & Eisenberger, N. I. (2011). An fMRI investigation of empathy for 'social pain' and subsequent prosocial behavior. *NeuroImage, 55*(1), 381-388. doi: 10.1016/j.neuroimage.2010.11.060

Muthén, L. K., & Muthén, B. O. (1998-2015). *Mplus User's Guide* (7 ed.). Los Angeles, CA: Muthén & Muthén.

Olivola, C. Y., & Todorov, A. (2010). Fooled by first impressions? Reexamining the diagnostic value of appearance-based inferences. *Journal of Experimental Social Psychology, 46*(2), 315-324. doi: 10.1016/j.jesp.2009.12.002

Oosterhof, N. N., & Todorov, A. (2008). The functional basis of face evaluation. *Proceedings of the National Academy of Sciences, 105*(32), 11087-11092. doi: 10.1073/pnas.0805664105

Paysan, P., Knothe, R., Amberg, B., Romdhani, S., & Vetter, T. (2009). A 3D face model for pose and illumination invariant face recognition. *6th IEEE International Conference on Advanced Video and Signal based Surveillance for Security, Safety and Monitoring in Smart Environments, Italy*, 296 - 301.

R Core Team. (2014). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. Retrieved from http://www.R-project.org/.

Rabin, M., & Schrag, J. L. (1999). First impressions matter: A model of confirmatory bias. *Quarterly Journal of Economics, 114*, 37-82. doi: 10.1162/003355399555945

Reutner, L., Stutz, M., & Walker, M. (2016). The (face) value of life. Facial incompetence and coldness diminishes perceived human value. *Manuscript submitted for publication*.

Ro, T., Russell, C., & Lavie, N. (2001). Changing faces: A detection advantage in the flicker paradigm. *Psychological Science, 12*(1), 94-99. doi: 10.1111/1467-9280.00317

Rudert, S. C., & Greifeneder, R. (in press). When it's okay that I don't play: Social norms guide the situated construal of social exclusion. *Personality and Social Psychology Bulletin*.

Rule, N. (2014). *The siren song of first impressions: Judging from the face even when you know better.* Paper presented at the Fifteenth Annual Meeting of the Society of Personality and Social Psychology, Austin, Texas.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. Austin & S. Worchel (Eds.), *The Social Psychology of Intergroup Relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Todorov, A., & Oosterhof, N. N. (2011). Modeling social perception of faces. *IEEE Signal Processing Magazine, 28*(2), 117-122. doi: 10.1109/MSP.2010.940006

U.S. Department of Education. (2013). *Student reports of bullying and cyber-bullying: Results from the 2011 School Crime Supplement to the National Crime Victimization Survey*. Retrieved from http://nces.ed.gov/pubs2013/2013329.pdf.

Walker, M., Jiang, F., Vetter, T., & Sczesny, S. (2011). Universals and cultural differences in forming personality trait judgments from faces. *Social Psychological and Personality Science, 2*(6), 609-617. doi: 10.1177/1948550611402519

Walker, M., & Vetter, T. (2009). Portraits made to measure: Manipulating social judgments about individuals with a statistical face model. *Journal of Vision, 9*, 1-13. doi: 10.1167/9.11.12

Walker, M., & Vetter, T. (2016). Changing the personality of a face: Perceived Big Two and Big Five personality factors modeled in real photographs. *Journal of Personality and Social Psychology, 110*(4), 609-624. doi: 10.1037/pspp0000064

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. doi: 10.1016/j.jesp.2009.08.003

Wesselmann, E. D., Williams, K. D., & Hales, A. H. (2013). Vicarious ostracism. *Frontiers in Human Neuroscience, 7*. doi: 10.3389/fnhum.2013.00153

Wesselmann, E. D., Williams, K. D., & Wirth, J. H. (2014). Ostracizing group members who can (or cannot) control being burdensome. *Human Ethology Bulletin, 29*(2), 82-103.

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. doi: 10.1177/1948550612443386

Westfall, J. (2015). *PANGEA: Power ANalysis for GEneral Anova designs*. Retrieved from http://jakewestfall.org/publications/pangea.pdf

Will, G.-J., Crone, E. A., van den Bos, W., & Güroğlu, B. (2013). Acting on observed social exclusion: Developmental perspectives on punishment of excluders and compensation of victims. *Developmental Psychology, 49*(12), 2236-2244. doi: 10.1037/a0032299

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In P. Z. Mark (Ed.), *Advances in Experimental Social Psychology* (Vol. 41, pp. 275-314). San Diego, CA: Elsevier Academic Press.

Williams, K. D., Cheung, C. K., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*(5), 748-762. doi: 10.1037/0022-3514.79.5.748

Willis, J., & Todorov, A. (2006). First impressions making up your mind after a 100-ms exposure to a face. *Psychological Science, 17*(7), 592-598. doi: 10.1111/j.1467-9280.2006.01750.x

Zebrowitz, L. A., & Montepare, J. M. (2008). Social psychological face perception: Why appearance matters. *Social and Personality Psychology Compass, 2*(3), 1497-1517. doi: 10.1111/j.1751-9004.2008.00109.x

Zebrowitz, L. A., Voinescu, L., & Collins, M. A. (1996). "Wide-eyed" and "crooked-faced": Determinants of perceived and real honesty across the life span. *Personality and Social Psychology Bulletin, 22*(12), 1258-1269. doi: 10.1177/01461672962212006

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Appendix 1: Instructions Study 1

This study is about exclusion from social groups. A group consists of three or more persons and can be anything from a circle of friends to coworkers, club members, etc. Sometimes, groups do decide to exclude specific members from the group, which are then not part of the group anymore. There can be a variety of reasons for such an exclusion, which may be considered as more or less fair and justified by others.

We are interested in how people judge the exclusion of a group member *(from their own group)* on the basis of minimal information. For this reason, you will be presented with pictures of several persons *(which had been excluded from your group)* and decide for each how acceptable this exclusion is in your opinion**.**

Please imagine *(that you are a part of)* a group of four people. *(Your/The)* group has decided to exclude one of its members. Your job is to decide personally how acceptable you think *(your/the)* group's decision was.

On the first screen you will be presented with a picture of a single person (the person who is excluded from *(your/the)* group). You will then see a screen that asks you to answer how acceptable you think it is for *(your/the)* group to exclude this member.

Your job is simply to tell us how acceptable/unacceptable this action would be.

Answer "1" if you think your group's action is completely unacceptable, "2" if you judge it to be somewhat unacceptable, "3" if you think that it is somewhat acceptable, and "4" if you think the action is very acceptable. Please answer spontaneously and as quickly as possible, for you only have a limited amount of time for this task!

Finally, you will be presented with a screen that asks you to wait for the next scenario.

You might feel that you need more information than is provided about the situation and the *(other members of your)* group before you can give your answer. However, in real life, people often have to make judgments quickly and with a minimum of information. Therefore, we ask you to decide spontaneously without making any unnecessary assumptions.

Appendix 2: Variance explained by the Random Effects in Study 1 -3

Study 1

	Random Effects	Variance
Participants	Intercept	.481
	Warmth	.016
	Competence	.026
	Warmth x Competence	.009
Faces	Intercept	.056
	Warmth	.009
	Competence	.004
	Warmth x Competence	.003
Residual		.418

Study 2

	Random Effects	Variance
Participants	Target Intercept	.446
	Target Warmth	.057
	Target Competence	.031
	Target Warmth x Competence	.041
	Sources Intercept	.117
	Sources Slope	.031
Faces Target	Target Intercept	.056
	Target Warmth	.009
	Target Competence	.004
	Target Warmth x Competence	.003
Faces Source 1	Sources Intercept	.004
	Sources Slope	.015
Faces Source 2	Sources Intercept	.000
	Sources Slope	.000
Faces Source 3	Sources Intercept	.018
	Sources Slope	.032
Residual		.440

Study 3

	Random Effects	Variance
Participants	Intercept	.513
	Warmth	.054
	Competence	.081
	Warmth x Competence	.100
Faces	Intercept	.048
	Warmth	.003
	Competence	.007
	Warmth x Competence	.025
Residual		.463

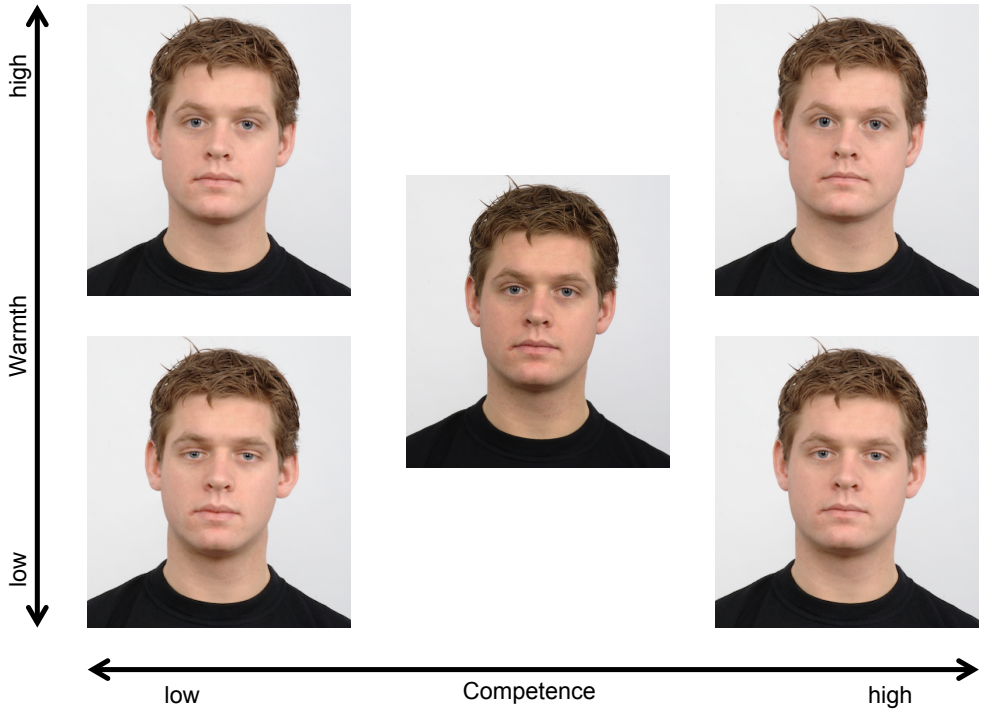

Figure 1. Variations of faces manipulated in warmth and competence. All presented faces were manipulated on both dimensions, resulting in either a low/low, low/high, high/low or high/high combination. The face in the center is the original, unmanipulated portrait, which was not used in the studies.

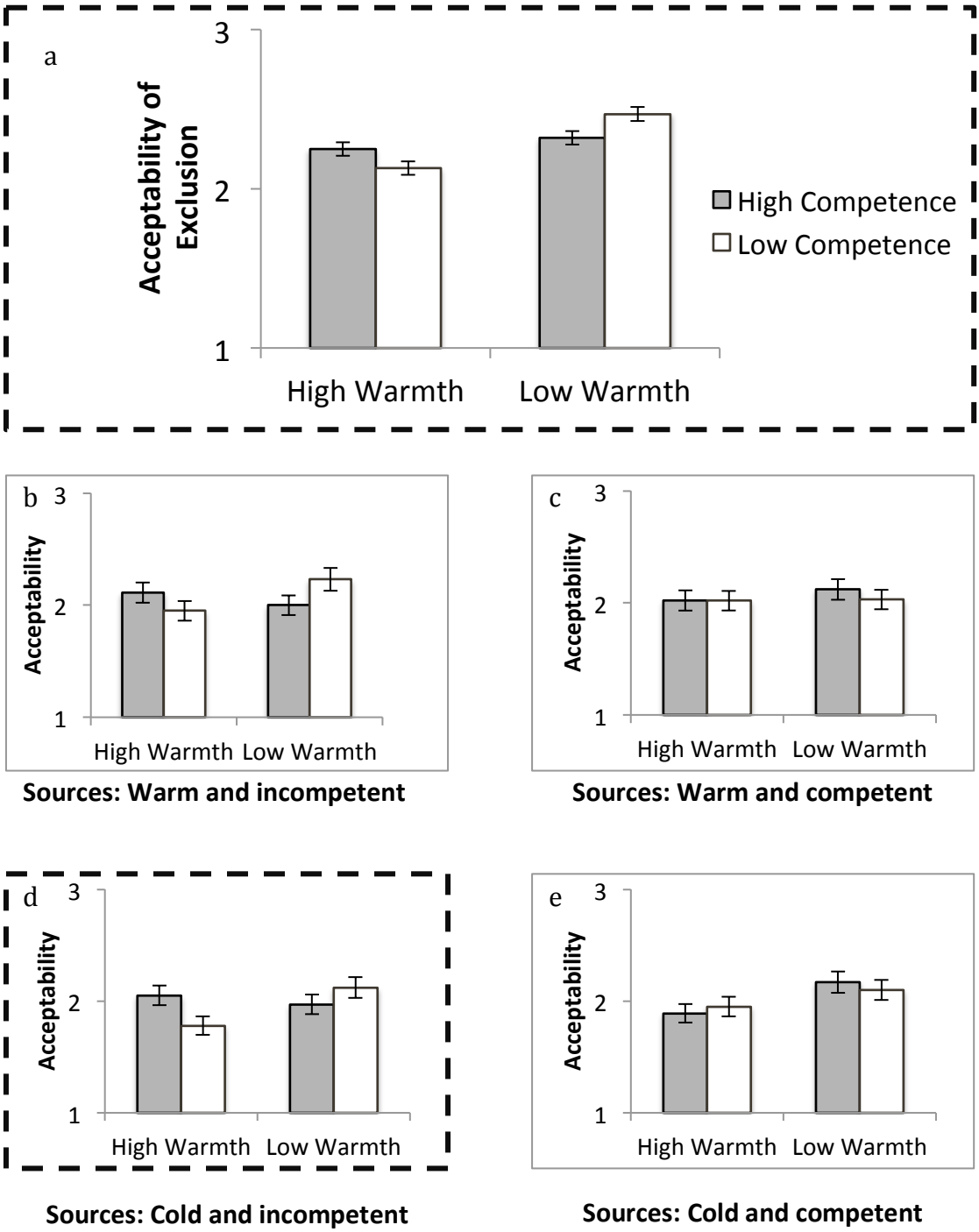

Figure 2. Mean levels of acceptability of exclusion (with standard errors) as a function of perceived warmth and competence in Study 1 (Figure 2 a) and Study 2 (Figures 2 b – e). Figures 2 b – e display the mean acceptability for each of the four excluding groups (sources) in Study 2. Perceived high competence is displayed as gray bars; low competence as white bars. The dotted lines represent the best match of the pattern from Study 1 in the Study 2 results.

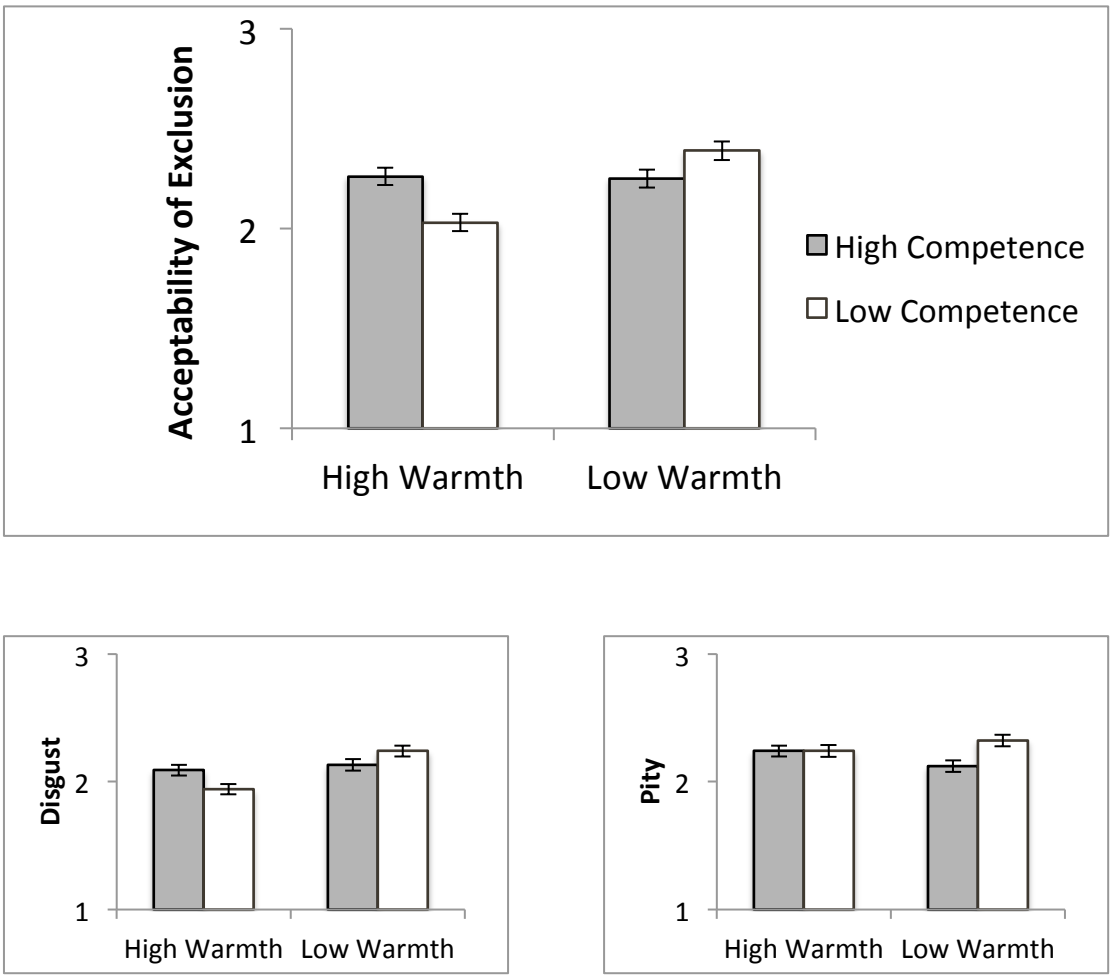

Figure 3. Mean levels of acceptability of exclusion, disgust, and pity (with standard errors) as a function of perceived warmth and competence in Study 3. Perceived high competence is displayed as gray bars; low competence as white bars.

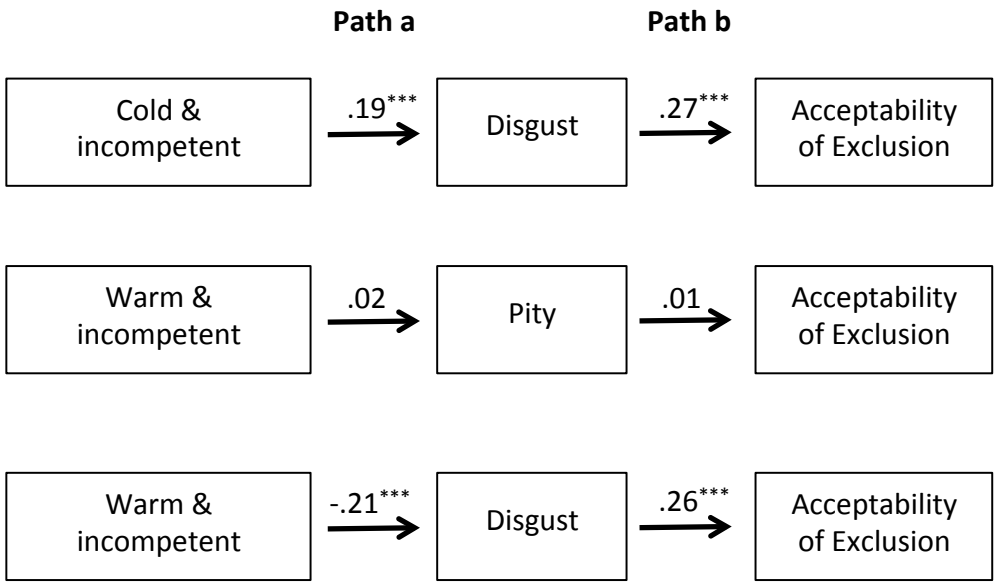

Figure 4. Path models linking facial information and accessibility of exclusion via discrete emotions in Study 3.

RUNNING HEAD: ACKNOWLEDGEMENT AND OSTRACISM

If you Can't Say Something Nice, Please Speak up Anyway:

Why Acknowledgement Matters Even When Being Excluded

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Abstract

Following ostracism, individuals are highly sensitive to social cues. Here we investigate whether and when minimal acknowledgment can improve need satisfaction following an ostracism experience. In four studies, participants were either ostracized during Cyberball (Studies 1 and 2) or through a novel apartment-application paradigm (Studies 3 and 4). To signal acknowledgement following ostracism, participants were either thrown a ball a few times at the end of the Cyberball game, or received a message that was either friendly, neutral, or hostile in the apartment-application paradigm. Both forms of acknowledgment increased need satisfaction, even when the acknowledgment was hostile (Study 4), thus indicating that it is better to be acknowledged but criticized than to be ignored altogether. Reinclusion buffered threat immediately, whereas acknowledgment without reinclusion primarily aided recovery. Our results suggest that minimal acknowledgment such as a few ball throws or even an unfriendly message can reduce the sting of ostracism.

Keywords: ostracism, rejection, social exclusion, acknowledgement

Words: 9,976

If you Can't Say Something Nice, Please Speak up Anyway:

Why Acknowledgement Matters Even When Being Excluded

Ostracism, social exclusion and rejection[1] are highly aversive, though commonly occurring experiences. While some rejection experiences may be unnecessary or even cruel, others are inevitable, for instance in selection procedures where many individuals apply for a job or an apartment but only one person can get accepted. Given the amount of pain and distress that often goes with these experiences (e.g., Williams, 2009), it is worthwhile to explore the boundary conditions which make an exclusion experience more bearable and less distressful for the excluded person. For instance, when facing exclusion, does it matter if one receives additional acknowledgement or does this merely represent the proverbial drop in the ocean? On a similar note, is it better to be ignored altogether than to face harsh criticism?

In line with both Sociometer Theory (Leary, Tambor, Terdal, & Downs, 1995) and research showing that social exclusion increases sensitivity to social cues (e.g., Pickett, Gardner, & Knowles, 2004), here we argue that an excluded individual's needs are highly reactive to even the most minimal inclusionary cues. More specifically, we postulate and empirically substantiate that minimal inclusionary cues suffice to appreciably mend the sting of exclusion. Importantly, this does not only apply to cues signaling potential for reinclusion, but also to every sign of acknowledgment that shows the individual that s/he is not completely meaningless and invisible. Even if "acknowledgement" is negative and potentially hurtful, it might be still preferable to the dead silence of being completely ignored and thereby rendered as inherently meaningless.

[1] Whereas ostracism, social exclusion, and rejection denote separate constructs (see Leary, 2005 for a discussion), they have more in common than differences and are often referred to interchangeably. Because the following considerations apply to all three constructs alike, we will respectively use the term that is more appropriately throughout the manuscript.

Being Excluded

A plethora of research has described individuals' high sensitivity to even the smallest signs of social exclusion (e.g., see Gerber & Wheeler, 2009; Hartgerink, van Beest, Wicherts, & Williams, 2015; Leary & Downs, 1995; Leary et al., 1995; Pickett & Gardner, 2005; Pickett, Gardner, & Knowles, 2004; Williams, 2009). This high sensitivity is theorized to be an evolutionarily adaptive response to detect even the earliest and most minimal warning signs that indicate that an individual's inclusionary status in a group is threatened (Kerr & Levine, 2008; Williams, 2009). Immediate detection enables individuals to quickly adapt their behavior to be more compatible with the group's expectations or make corrections for norm violations (Kerr & Levine, 2008).

Empirically, many studies provide evidence that even the most minimal forms of exclusion threaten individuals' fundamental needs of belongingness, self-esteem, control, and meaningful existence (Williams, 2009). Significant increases in need threat have for instance been demonstrated when participants did not receive a ball during a virtual ball throwing game with strangers (Williams, Cheung, & Choi, 2000), when participants were left out-of-the-loop on information that other people knew in a game of *Clue* (Jones & Kelly, 2010) or even when participants felt that they were "being looked as at though air" by an absolute stranger on the street (Wesselmann, Cardoso, Slater, & Williams, 2012).

Being (Re)included

Compared to a plethora of research that has investigated group behaviors that make individuals feel excluded and distressed, less research has focused on group behaviors that make individuals feel *better* during or after an ostracism experience. As a notable exception, one study showed that aggression following ostracism was gradually reduced depending on the number of

people that had previously included the participants (DeWall, Twenge, Bushman, Im, & Williams, 2010). Another study found that an episode of inclusion following a previous ostracism episode fully ameliorated the sting of ostracism (Tang & Richardson, 2013). This inclusion episode, however, involved getting as many throws at the end of the game as were thrown prior to the ostracism. Possibly, participants assumed that they were fully reincluded by the end of the game, or that there was some technical malfunction for the first half of the game. Thus, it seems that the sting of ostracism can be mended through a substantial amount of positive interaction (such as being included by some co-players while others were ostracizing or experiencing a lengthy reestablishment of inclusion). This is consistent with current theorizing; ostracized individuals are primarily motivated to restore their threatened needs, and achieving full reinclusion is likely to allow this (Williams, 2007).

In many real-life situations, however, individuals might not immediately be reincluded after a period of ostracism. Instead, an individual might be reincluded on probation, or still be formally excluded, but receive some signals that future reinclusion might be possible. This raises the question of how individuals react to such ambiguous or minimal inclusionary cues. Are minimal inclusionary cues sufficient to improve individual's need satisfaction after a period of ostracism? Or, because ostracism is such a negative experience, do inclusionary cues need to match the experienced amount of exclusion to be effective? In the tradition of research that has aimed to identify *the minimal exclusionary cues* that make individuals feel threatened (Kassner, Wesselmann, Law, & Williams, 2012; Zadro, Williams, & Richardson, 2004), here we investigate the most *minimal inclusionary cues* that can help repair or soften the blow of ostracism. Though it may not feel as if the ostracism had never occurred, such cues may

nonetheless lead to a detectable improvement relative to those who are denied minimal inclusionary cues.

Sensitivity to Minimal Inclusionary Cues

After being ostracized, an individual's most important goal should be to achieve reinclusion. Therefore, while it is highly important for individuals to be sensitive to exclusionary cues that signal the presence of threat, it might further be important to be sensitive to *inclusionary cues* that signal how severe the threat is. An exclusion experience that is followed by many inclusionary cues might represent a relatively weak threat that can easily be dealt with. In contrast, a severe exclusion that leaves the individual completely shut out might require more drastic measures, especially if individuals need to get others to even notice them in the first place. Being sensitive to these differences appears crucial, given that an excluded individual who aims for reinclusion should behave as normatively as possible. Reacting to exclusion inappropriately (by either dismissing a severe exclusion or reacting with strong aggression to a slight exclusion) is likely to lower one's chances of getting reincluded. In line with this reasoning, literature such as Sociometer Theory (Leary & Downs, 1995; Leary, et al., 1995) has repeatedly emphasized the high sensitivity of individuals for all kinds of social information signaling changes to their inclusionary status.

While Sociometer Theory mainly focuses on negative changes to one's inclusionary status, several studies have demonstrated that following an ostracism experience, sensitivity to positive social information is amplified also (Bernstein, Young, Brown, Sacco, & Claypool, 2008; DeWall, Maner, & Rouby, 2009; Gardner, Pickett, & Brewer, 2000; Pickett & Gardner, 2005; Pickett et al, 2004; Sacco, Wirth, Hugenberg, Chen, & Williams, 2011). This increased sensitivity is most likely due to excluded individuals being highly motivated to achieve future

(re)inclusion and to avoid further exclusion experiences. Hence, we reasoned that individuals would be highly susceptible to even the smallest cues that signal acknowledgment by others during an ostracism episode.

Reinclusion versus Acknowledgement

In the present research, we will investigate two types of inclusionary cues: a) an individual being barely reincluded after an episode of ostracism and b) an individual not being reincluded, but instead receiving some minimal form of acknowledgment. We expect that both kinds of cues will aid in mending the sting of exclusion compared to being excluded and ignored altogether. This is because even the most minimal forms of acknowledgment signal that ultimately, there might be a chance of achieving reinclusion and, even more important, that one's existence does matter (Wesselmann, et al., 2012) The idea that individuals who encounter a threat are motivated to reassure themselves of the importance of their own existance has repeatedly been emphasized in the ostracism literature (e.g., Williams, 2009) but also can be found in other theories such as Terror Management Theory (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004) or the Meaning Maintenance Model (Heine, Proulx, & Voss, 2006). In general, these theories predict that threatening events cause anxiety because they threaten one's perception of being a valuable individual in a meaningful universe. Ostracism, also referred to as "social death," poses such an existential threat (Williams, 2009). As James eloquently wrote:

> If no one turned round when we entered, answered when we spoke, or minded what we did, but if every person we met 'cut us dead,' and acted as if we were non-existing things, a kind of rage and impotent despair would ere long well up in us, from which the cruelest bodily tortures would be a relief; for these would make us feel that, however bad might

be our plight, we had not sunk to such a depth as to be unworthy of attention at all. (James, 1890, pp. 293-294)

Accordingly, we propose that minimal acknowledgment does not even have to be positive to have a beneficial effect on an individual's need satisfaction. Even if acknowledgment is hostile in nature, such as severe criticism, insults or even bullying, it should be preferable to being fully ostracized and ignored. This is because even a negative response implies that others at the very least recognize one's existence. In line with this reasoning, correlational studies in the workplace have found self-reported ostracism episodes to be stronger related to participant's well-being than harassment episodes (O'Reilly, Robinson, Berdahl, & Banki, 2015).

Additionally, we were interested how different minimal inclusionary cues might affect different stages of ostracism. The temporal need threat model of ostracism (Williams, 2009) distinguishes between a *reflexive stage*, that is, the immediate threat reaction when individuals realize that they are ostracized, and a subsequent *reflective stage*, during which the individual copes with the experience. It is possible that minimal inclusionary cues that offer an immediate solution to an ostracism situation (e.g., minimal reinclusion) have an immediate effect on individual's needs. In contrast, other forms of minimal acknowledgment might need more time to process and therefore affect recovery in the reflective stage.

In sum, here we propose and present evidence for the *Minimal Acknowledgment Hypothesis*: even a minimum of acknowledgment will help to mend the sting of an ostracism episode. We test this proposition in four studies, two investigating the effects of *acknowledgment through brief reinclusion* in the Cyberball game and two testing the effect of *minimal acknowledgment without reinclusion* in a newly developed paradigm of apartment-application.

Study 1

Participants

We randomly assigned 100 introductory psychology students (M_{age} = 19.69, *SD* = 1.22, 65% Male) to one of four conditions: full-inclusion, full-ostracism, reinclusion (described below), and late ostracism[2]. We did not conduct a power analysis, but instead decided to run 25 participants in each condition.

Materials and Procedure

Ostracism was manipulated with the Cyberball paradigm (Williams, et al., 2000). Participants played an online-ball tossing game with two other ostensible players, who were in fact computer-programmed. The game consisted of 30 throws. In the *full-inclusion* condition participants received a third of the 30 throws, spread throughout the game. In the *full-ostracism* condition participants received no throws for the entire game. In the *reinclusion* condition participants received none of the first 20 throws, but one third of the final ten throws (three throws; see also *Table 1*). These three ball throws represent a very marginal form of reinclusion, because three throws neither provide inclusion proportionate to the amount of ostracism that occurred, nor provide an explanation or apology.

Following Cyberball, participants answered standard measures of *reflexive* basic need satisfaction of belongingness, self-esteem, control and meaningful existence (12-item scale, α = .91) and mood (8-item scale, α = .89), see Williams (2009). We also included three items about how (1) embarrassed, (2) uncomfortable, and (3) awkward participants felt during the game *(1 = not at all, 5 = extremely)*. Following a nonrelated filler task (approximately 2-5 minutes),

[2] In the late ostracism condition participants received 6 of the first 20 throws, but none of the final 10 throws. Because this condition was for exploratory purposes only and does not contribute to the current research question, we refrain from reporting the results here.

participants reported their *reflective* need satisfaction (α = .91), and mood (α = .90) using the same items as before, only this time oriented to how participants felt at that moment (e.g., "*right now* I feel rejected").

As manipulation checks, participants rated the extent to which they were (1) ignored and (2) excluded during the three stages of the game (all α = .98) and estimated the percentage of ball tosses that they received during the game.

Results

Manipulation checks. At all three stages of the game, there were significant differences between the conditions on how excluded and ignored participants felt, smallest $F(2, 72) = 53.09$, $p < .001$, $\eta_p^2 = .60$. Of particular relevance, Tukey post hoc comparisons showed that reincluded participants reported being more ignored and excluded than included ones at the beginning and the middle of the game, smallest $t(72) = 6.07$, $p < .001$, $d = 1.39$, but not at the end of the game, $t(72) = 1.92$, $p = .140$, $d = .46$. See *Table 2* for means and standard deviations for manipulation checks and dependent variables.

Similarly, the manipulation affected the number of ball tosses participants estimated receiving, $F(2, 72) = 118.55$, $p < .001$, $\eta_p^2 = .77$, 90% confidence interval (CI) = [.68, .81]. Participants who were fully ostracized reported receiving fewer ball tosses than reincluded ones, $t(72) = -6.41$, $p < .001$, $d = -1.77$, who in turn reported receiving fewer tosses than included ones, $t(72) = -8.95$, $p < .001$, $d = -1.81$($M_{Ostracism} = .28$, $SD = .54$, $M_{Reinclusion} = 12.48$, $SD = 6.89$, $M_{Inclusion} = 29.48$, $SD = 9.39$).

Need Satisfaction and Affect. A 2 (stage: reflexive vs. reflective) X 3 (condition: full-inclusion v. full-ostracism v. reinclusion) MANOVA on need satisfaction and mood revealed a significant effect of stage, Wilks' $\lambda = .449$, $F(2, 71) = 43.51$, $p < .001$, $\eta_p^2 = .55$, 90% CI =

[.45, .67] indicating that participants recovered during the delay. There was also a significant main effect of condition, Wilks' $\lambda = .639$, $F(4, 142) = 8.91$, $p < .001$, $\eta_p^2 = .20$, 90% CI = [.09, .28], which was qualified by the significant stage x condition interaction, Wilks' $\lambda = .808$, $F(4, 142) = 3.99$, $p = .004$, $\eta_p^2 = .10$, 90% CI = [.02, .16]. Follow-up univariate tests were conducted separately at the reflexive stage and the reflective stage. All means with standard errors are displayed in Figure 1.

Reflexive stage. There was a significant effect of condition on reflexive need satisfaction, $F(2, 72) = 27.73$, $p < .001$, $\eta_p^2 = .44$, 90% CI = [.28, .54] and also on mood, $F(2, 72) = 15.17$, $p < .001$, $\eta_p^2 = .30$, 90% CI = [.14, .41]. Because our focal interest is on the effects of being reincluded, we conducted a planned contrast comparing reincluded participants to fully-ostracized ones. Reinclusion significantly increased basic need satisfaction compared to full-ostracism, $t(72) = 2.19$, $p = .032$, $d = .64$ ($M = 2.50$, $SD = .70$ and $M = 2.10$, $SD = .54$, respectively). However, reincluded participants still experienced lower needs satisfaction than fully-included ones ($M = 3.44$, $SD = .70$), $t(72) = 5.07$, $p < .001$, $d = -1.34$.

Similarly, ostracized participants reported more negative mood ($M = 3.00$, $SD = .75$) compared to included participants ($M = 3.99$, $SD = .60$), $t(72) = 5.07$, $p < .001$, $d = -1.47$. However, reincluded participants and fully-ostracized participants did not differ regarding mood, $t(72) = .25$, $p = .807$.

Reflective stage. Group differences remained even after the delay period for need satisfaction, $F(2, 72) = 4.08$, $p = .021$, $\eta_p^2 = .10$, 90% CI = [.01, .20] and mood, $F(2, 72) = 9.85$, $p < .001$, $\eta_p^2 = .22$, 90% CI = [.08, .33]. Fully-ostracized participants had recovered enough that they no longer had lower need satisfaction and mood than reincluded participants, largest $t(72) = .18$ $p = .983$. However, compared to fully-included participants, reincluded participants were

still lower on need satisfaction, $t(72) = -2.50$, $p = .039$, $d = -.66$ ($M = 3.31$, $SD = .84$ and $M = 3.80$, $SD = .47$); and mood, $t(72) = -3.94$, $p = .001$, $d = -1.12$ ($M = 3.27$, $SD = .77$ and $M = 4.06$, $SD = .63$).

Embarrassment, Discomfort, and Awkwardness. There were significant effects of condition on each of these three states, smallest $F(2, 72) = 9.12$, $p < .001$, $\eta_p^2 = .20$, 90% CI = [.07, .32]. Central to the current research question, reinclusion was insufficient to alleviate embarrassment and discomfort, relative to fully-ostracized participants, largest $t(72) = -.92$, $p = .360$. Reinclusion did significantly reduce feelings of awkwardness relative to fully-ostracized participants, $t(72) = -2.18$, $p = .033$, $d = -.59$ ($M = 2.80$, $SD = 1.16$, $M = 3.52$, $SD = 1.30$, respectively).

Discussion

Study 1 provides initial evidence for the minimal acknowledgment hypothesis: relative to continuously ostracized participants, those who received three ball tosses in the end reported greater need satisfaction, and less feelings of awkwardness. Interestingly these benefits were limited; reinclusion did not improve mood, or reduce embarrassment or discomfort. It thus seems that the minor acknowledgment offered by the three throws was primarily effective in increasing basic needs. Additionally, the benefits of reinclusion occurred in the immediate reflexive stage, and had dissipated by the reflective stage, suggesting that reinclusion buffers especially the initial impact of ostracism.

In Study 2, we aimed to replicate the finding that even minimal reinclusion in form of three ball tosses bolsters need satisfaction. Additionally, to further test the minimal acknowledgment hypothesis, we introduced a yet more minimal form of acknowledgment: a single ball toss at the end.

Study 2

Participants

A total of 106 introductory psychology students (M_{age} = 19.61, *SD* = 1.17, 70.8% Male) were randomly assigned to one of four conditions (see below). Given the effect sizes in Study 1, we would have liked to opt for a bigger sample. However, the study was conducted at the end of the semester and so we ran as many participants as was possible before the semester end.

Materials and Procedure

Materials and procedure were identical to Study 1, with two changes. First, we added a minimal-reinclusion condition, in which participants received only one of the final three throws. Thus, there were four conditions (full-inclusion, full-ostracism, reinclusion, and minimal-reinclusion; see Table 3).

Second, in addition to need satisfaction (reflexive α = .92, reflective α = .85) and mood (reflexive α = .87, reflective α = .89), after the reflexive measures we assessed hostility and forgiveness towards the other players. Hostility was assessed with a 7-item-scale (e.g., "I would like to insult the other players"; α = .80) and forgiveness with a 12-item scale (e.g., "I harbor a grudge"; α = .86; McCullough, Worthington Jr, & Rachal, 1997). Both measures were rated on a 5-point scale (*1 = strongly disagree; 5 = strongly agree*).

Results

Manipulation checks. Condition significantly affected the perception of being ostracized at all three stages of the game, smallest $F(3, 102) = 30.63$, $p < .001$, $\eta_p^2 = .47$. Relative to fully-ostracized ones, reincluded participants reported being less ignored and excluded at the end of the game ($M_{FullOstracism}$ = 4.37, *SD* = 1.03, $M_{Reinclusion}$ = 2.09, *SD* = .89, $t(102) = -8.43$, $p < .001$, $d = -2.26$), and marginally in the middle ($M_{FullOstracism}$ = 4.37, *SD* = .98, $M_{Reinclusion}$ = 3.67, *SD* = .99,

$t(102) = -2.51$, $p = .064$, $d = -.69$) but not in the beginning of the game ($M_{FullOstracism} = 4.37$, $SD = 1.01$, $M_{Reinclusion} = 4.31$, $SD = .91$, $t(102) = -.19$, $p = .998$, $d = -.05$). Minimally-reincluded participants showed a similar pattern; compared to those who were fully-ostracized they reported being less ignored and excluded at the end of the game ($M = 2.57$, $SD = 1.09$), $t(102) = -6.64$, $p < .001$, $d = -1.64$, but not the middle ($M = 4.13$, $SD = 1.02$) or beginning ($M = 4.31$, $SD = 1.05$), largest $t(102) = -.87$, $p = .821$, $d = -.23$. Reinclusion and minimal-reinclusion did not differ from each other at any stage of the game, largest $t(102) = -1.80$, $p = .278$, $d = -.44$. Looking at the estimated percentage of ball tosses received, included participants ($M_{Inclusion} = 31.42$, $SD = 8.30$) estimated receiving more tosses than reincluded ones ($M_{Recinclusion} = 13.29$, $SD = 7.33$), $t(102) = 10.42$, $p < .001$, $d = 2.18$, who in turn estimated receiving more tosses than minimally-reincluded ones ($M_{MinReinclusion} = 6.11$, $SD = 4.64$), $t(102) = 4.15$, $p < .001$, $d = .98$. Minimally-reincluded participants did not report receiving significantly more tosses than fully-ostracized ones ($M_{FullOstracism} = 2.15$, $SD = 4.19$, $t(102) = 2.27$, $p = .113$, $d = .85$). See *Table 4* for means and standard deviations for manipulation checks and dependent variables.

Need Satisfaction and Affect. A 2 (stage: reflexive v. reflective) x 4 (schedule of throws: full-inclusion v. full-ostracism v. reinclusion v. minimal-reinclusion) MANOVA revealed a main effect of stage, Wilks' $\lambda = .223$, $F(2, 101) = 176.07$, $p < .001$, $\eta_p^2 = .77$, 90% CI = [.71, .82] and condition, Wilks' $\lambda = .603$, $F(6, 202) = 9.70$, $p < .001$, $\eta_p^2 = .22$, 90% CI = [.13, .28]. These main effects were qualified by an interaction indicating recovery in the ostracism conditions, Wilks' $\lambda = .556$, $F(6, 202) = 11.47$, $p < .001$, $\eta_p^2 = .25$, 90% CI = [.15, .31]. All means with standard errors are displayed in Figure 2.

Reflexive Stage. In the reflexive stage, we find overall effects of condition on need satisfaction, $F(3, 102) = 36.97$, $p < .001$, $\eta_p^2 = .52$, 90% CI = [.40, .59] and mood, $F(3, 102) =$

12.61, $p < .001$, $\eta_p^2 = .27$, 90% CI = [.14, .36]. Because our primary interest is in the effects of reinclusion, we conducted a set of planned contrasts comparing the pooled means of the reinclusion condition and minimal reinclusion condition against the fully-ostracized condition (contrast weights: .5 .5 -1). Reinclusion significantly improved need satisfaction $t(102) = 2.98$, $p = .004$, $d = .70$, but not mood, $t(102) = 1.41$, $p = .163$, $d = .30$. Compared to full-ostracism, receiving three throws significantly improved need satisfaction, $t(102) = 3.45$, $p = .001$, $d = .95$, and receiving a single throw descriptively improved need satisfaction, $t(102) = 1.72$, $p = .088$, $d = .45$ ($M_{Reinclusion} = 2.56$, $SD = .61$, $M_{MinReinclusion} = 2.27$, $SD = .69$, $M_{FullOstracism} = 1.97$, $SD = .62$). However, relative to fully-included participants ($M_{Inclusion} = 3.68$, $SD = .58$), both reinclusion groups reported lower need satisfaction, smaller $t(102) = -6.47$, $p < .001$, $d = -1.87$), indicating that reinclusion led to a detectable but incomplete boost to basic needs.

Reflective Stage. Similar to Study 1, in the reflective stage group differences remained for both need satisfaction, $F(3, 102) = 3.42$, $p = .02$, $\eta_p^2 = .09$, 90% CI = [.01, .17] and mood, $F(3, 102) = 2.55$, $p = .06$, $\eta_p^2 = .07$, 90% CI = [.00, .14]. Compared to fully-included participants, reincluded participants still reported lower need satisfaction, $t(102) = 3.07$, $p = .014$, $d = -.59$ ($M_{Inclusion} = 4.04$, $SD = .50$; $M_{Reinclusion} = 3.57$, $SD = .59$, respectively) and mood, $p = .037$, $d = .54$ ($M_{Inclusion} = 4.47$, $SD = .42$; $M_{Reinclusion} = 3.97$, $SD = .81$, respectively). This indicates that even though reinclusion led to an immediate boost in basic need satisfaction, overall recovery was still not completed after a delay. The differences between reincluded and fully-ostracized participants were no longer apparent for need satisfaction or mood, larger $t(102) = 1.01$, $p = .743$, $d = .27$.

Hostility and Forgiveness. Overall there were significant mean differences between conditions in ratings of hostility towards the other players, $F(3, 102) = 5.31$, $p = .002$, $\eta_p^2 = .14$,

90% CI = [.03, .22] and forgiveness towards the other players, $F(3, 102) = 6.37$, $p = .001$, $\eta_p^2 = .16$, 90% CI = [.05, .25]. Ratings of hostility were higher for all three of the ostracism conditions relative to the included group; smallest $t(102) = 2.76$, $p = .034$, $d = .79$. Neither reinclusion nor minimal-reinclusion led to reduced hostility compared to full-ostracism, largest $t(102) = 1.01$, $p = .743$. Similarly, included participants expressed greater forgiveness relative to fully-ostracized, $t(102) = 4.03$, $p = .001$, $d = 1.22$, and reincluded, $t(102) = 3.47$, $p = .004$, $d = 1.00$, but not significantly to minimally-reincluded ones; $t(102) = 2.29$, $p = .107$. Critically, however, neither reinclusion nor the minimal-reinclusion produced greater forgiveness relative to full-ostracism, largest $t(102) = 1.78$, $p > .287$, $d = .47$.

Discussion

Replicating and extending Study 1, Study 2 showed that a relatively minor form of acknowledgment suffices to improve basic needs following ostracism. Receiving some ball throws at the end of the game significantly improved participants' need satisfaction during the reflexive stage, though again, it did not speed up recovery during the reflective stage. Moreover, this effect is neither due to reduced hostility nor increased feelings of forgiveness towards the ostracizers.

Interestingly, though this minor form of reinclusion improves participants' need satisfaction, it does not ameliorate the effects of ostracism completely, as it has been demonstrated for an episode of full inclusion (Tang & Richardson, 2013). Perhaps the positive effect of receiving acknowledgment in form of ball tosses increases gradually with the amount of received ball tosses. Supporting this explanation, three throws significantly increased need satisfaction, while a single throw only produced a descriptive increase in need satisfaction but missed conventional significance ($p = .088$). As an alternative explanation, one should note that

the two reinclusion conditions differed both quantitatively (3 throws > 1 throw) and qualitatively: Participants who received three throws were included at least once by each of the other players. In contrast, those who received only a single throw were completely ostracized by one of the two other players. In Study 3, we attempted to tease apart the effect of minimal acknowledgment and the number of ostracizers.

Studies 1 and 2 provide preliminary support for our hypothesis that even minimal inclusionary cues can mend the sting of exclusion. However, the obtained results could potentially also be due to reincluded participants experiencing ostracism for an objectively shorter time, or concluding that reinclusion signals the end of ostracism. Therefore, in Study 3, we investigated effects of minimal acknowledgment that was given without (re)including the participant. Additionally, we tested whether the effect is independent of the objective "amount" of rejection that a participant receives.

Study 3

Participants

We randomly assigned 140 US participants (74 female; M_{age} = 34.58, SD = 10.70) from Amazon Mechanical Turk to one of two conditions. Sample size was determined using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). Because of the novelty of the utilized paradigm, we calculated the effect size such as to detect medium-sized effects.

Design

In order to investigate the effect of minimal acknowledgment without reinclusion, we created a game in which participants' goal is to apply for apartment units and get accepted by one of the units. In the game, all alleged players rejected the participants. Minimal

acknowledgment was operationalized by a nice message that one player sent along with her/his rejection.

To disentangle the effect of received acknowledgment from the number of excluding persons, we based our design loosely on a study on physical pain by Kahneman, Fredrickson, Schreiber, and Redelmeier (1993). In this study, participants completed two painful cold water trials, a long and a short one. However, pain decreased at the end of the longer trial whereas it remained constant in the shorter trial. Analogously, participants in the present study completed two trials, that is, they applied for two apartments in total. In each trial, they received three rejections without a message. However, during the longer trial they received an additional fourth rejection that was accompanied by a friendly message.

Kahneman and colleagues (1993) demonstrated that participants preferred the objectively longer trial to the shorter one, provided that the pain decreases at the end of the longer trial. We similarly assumed that participants would experience less negative affect and prefer a trial with objectively more rejections to an objectively shorter trial (four compared to three rejections in total), if the fourth rejection is accompanied by a friendly message (that is, social pain decreases at the end). Additionally, we assumed that the effect would specifically occur when friendly message was presented at the end of the trial, thus "adding a better end" (Kahneman et al., 1993). Therefore, we further manipulated whether the trial with the friendly message was presented first or last, resulting in a 2 (trial: four vs. three rejections) X 2 (position: message first vs. last) factorial design with the first factor as repeated measure. We further counterbalanced between participants whether the message was presented in the first or the second trial.

Material and Procedure

Participants were told that they would play an apartment-hunting game with other participants who were online at the same time. Allegedly, participants would be divided into the roles of potential tenants and current apartment members. In reality, all participants were assigned to the role of a potential new tenant who is searching for an apartment.

Participants created a short profile and were subsequently presented with the descriptions of several apartment complexes that had apartment units on offer. Each apartment description included a picture and basic information about the room amenities and the other people who live in the complex. Participants could apply for one of the apartments by writing a short message to the current apartment complex members (their alleged co-players). Note that while participants knew that they were playing a game, they were told that their applications would be read and evaluated by other participants who had been assigned to the role of "apartment complex members." Participants were told that they needed the approval of at least half of the current "complex members" to be accepted and that they would have to compete with other participants in the role of "potential tenants."

Participants applied for two apartment units in total and were rejected by all alleged co-players in both trials. In the "three rejections trial," participants received three rejections without any additional comments, for example: *"Kim has rejected your request. Kim did not send a message."* In the "four rejections trial," participants also received three rejections without messages, plus one additional rejection with a message, which read as follows:

"Hi! Thank you for your request. You seem to be a nice person, though I am very sorry to tell you that I have to reject you, since I am personally hoping to find someone who is interested in [interest the participant did not share]. Good luck with your search! Best regards, Danny."

The position of the message (first or last in the respective trial) and the order of the trials (trial with message first or second) was counterbalanced between participants. After each trial, as a filler activity participants worked on an anagram-unscrambling task for one minute before they answered the dependent variables: need threat/fulfillment, hurt, discomfort, and comfort. Need threat/fulfillment was assessed by a short scale (Rudert & Greifeneder, 2016) using 9-point semantic differentials (Cronbach's α = .88 - .91) with the adjectives *rejected – accepted* (belongingness)*, devalued – valued* (self-esteem)*, powerless – powerful* (control) and *invisible – recognized* (meaningful existence). Hurt was assessed with two items (*1 = not at all, 9 = very much): "The behavior of the members of Apartment X hurt me,"* and *"The members of Apartment X were mean to me"* (Cronbach's α = .84). Moreover, participants rated their experience while applying for the apartments (*1 = no discomfort, 9 = strong discomfort; 1= no comfort, 9 = strong comfort*).

After applying for (and being rejected by) both apartment complexes, participants were asked to compare the two apartments directly on four scales assessing which apartment complex they would rather join, and which application process felt more comfortable, annoyed them most, and was tougher to cope with (*1= Apartment A, 9 = Apartment B*).

Finally, we assessed whether participants understood correctly how often they had been rejected, how many messages they had received and when they had received them. After providing demographics, participants were debriefed and provided with a code to get paid.

Results

Manipulation checks. Ten participants answered one or more manipulation checks incorrectly. Excluding these participants from the analysis did not change the pattern of results, thus the analysis is based on the full sample of 140 participants.

Dependent variables. A 2 (trial: four vs. three rejections) X 2 (position: message at the beginning vs. end) MANOVA on need satisfaction, hurt, comfort, and discomfort revealed a significant effect of the trial, Wilks' $\lambda = .896$, $F(4, 135) = 3.90$, $p = .005$, $\eta^2 = .10$, 90% CI = [.02, .17], indicating that participants felt better in the four-rejection trial with the nice message compared to the three-rejection trial. Looking at each variable separately, the effect was significant for comfort, $F(1, 138) = 7.01$, $p = .009$, $\eta^2 = .05$, 90% CI = [.01, .132]; ($M_{Four} = 3.31$, $SD = 1.93$ and $M_{Three} = 3.01$ $SD = 2.01$) and hurt, $F(1, 138) = 12.71$, $p = .001$, $\eta^2 = .08$, 90% CI = [.02, .16]; ($M_{Four} = 5.03$, $SD = 2.40$ and $M_{Three} = 5.53$ $SD = 2.51$), marginally significant for need satisfaction ($F(1, 138) = 3.61$, $p = .060$, $\eta^2 = .03$, 90% CI = [.00, .08]; $M_{Four} = 2.68$, $SD = 1.50$ and $M_{Three} = 2.46$ $SD = 1.58$) and non-significant for discomfort, $p = -.157$. Neither the position of the message (Wilks' $\lambda = .962$, $F(4, 135) = 1.33$, $p = .263$) nor the interaction (Wilks' $\lambda = .964$, $F(4, 135) = 1.26$, $p = .291$) was significant, see Table 5 for the descriptive data.

Next, we included the order of the trials in the model, that is, whether the four- or three-rejections trial came first or last. There was an interaction between trial and order of the trials, $F(4, 133) = 3.27$, $p = .014$, $\eta^2 = .09$, 90% CI = [.01, .15], indicating that the positive effects of receiving a message were stronger when the message was placed in the second trial compared to in the first one.

To analyze the direct comparisons between the two trials, we re-coded the variables so that higher values indicate a preference for the four-rejection trial, and tested them against the natural scale mean of 5. On average, participants indicated that they preferred the apartment from the four-rejection trial more, found the application process more comfortable, less annoying, and less tough to cope with, all $p < .001$, see Table 6 for the descriptive data. There was no significant influence of the position of the message, Wilks' $\lambda = .948$, $F(4, 133) = 1.83$, $p = .127$.

Discussion

Study 3 provides further support for our hypothesis that minimal acknowledgment can make individuals feel better after rejection: Receiving a friendly message significantly reduced the sting of rejection. This was the case even though the message came with an additional rejection (four versus three rejections in total). In other words, the presence of minimal acknowledgment in the form of a nice message seemed to matter more to participants than the absolute *amount* of rejection that they received. This finding is in line with previous research on social exclusion indicating that social exclusion experiences strongly depend on individuals' subjective representation and interpretation of these experiences (Rudert & Greifeneder, 2016) and also with the results of Kahneman and colleagues in their physical pain study (1993)[3].

Different from the results of Kahneman and colleagues (1993), there was no effect of whether the message was placed first or last *within* the message trial. However, the positive effects of the message were stronger when it was placed in the second trial, that is, towards the end of the experiment. It is possible that because of the final majority decision whether the participant is accepted or not, a single trial is perceived as one rejection experience in total and thus the "better end" effect can only be observed throughout the entire study, rather than within each specific trial.

According to our theorizing, receiving a nice message reduces threat and hurt because it represents a form of minimal acknowledgment. A message should help even if the content of the message is not genuinely positive (i.e., the person is rejected nevertheless). Alternatively, one

[3] A discussion on the comparability of social and physical pain can be found elsewhere (Eisenberger & Lieberman, 2004; Eisenberger, Lieberman, & Williams, 2003; MacDonald & Leary, 2005; Riva, Wirth, & Williams, 2011).

could assume that participants perceived receiving no message at all as rude and unfriendly behavior and thus, it is not acknowledgment but the friendliness of the message which drives the effect. If acknowledgment is driving the postulated effect, then being rejected without receiving a message (i.e., to be rejected *and* ostracized) should be worse than being rejected and receiving a message of *any* content. We test the mere acknowledgment versus friendliness explanations in Study 4.

Moreover, whereas Studies 1 and 2 showed evidence for a direct effect of reinclusion in the immediate, reflexive stage, acknowledgment in Study 3 was conceptualized in a way that would make additional cognitive processing and (re-)attribution necessary, which represent processes that are typical for the subsequent, reflective stage according to Williams's temporal need threat model (2009). Accordingly, in Study 4, we were particularly interested in the difference between reflexive and reflective reactions to rejection.

Study 4

Participants

We randomly assigned 249 US citizens (124 female, M_{age} = 34.28, SD = 11.18) from Amazon Mechanical Turk to one of the conditions (see below). Sample size was determined using G*Power (Faul, et al., 2007).

Design

In Study 4, we used the same paradigm as in Study 3 but varied the messages that participants received. In addition to the friendly message, we created a neutral message and a mean message. Moreover, we manipulated the number of rejections independent of the message, so that participants received either two or four rejections in total. This resulted in a 2 (stage:

reflexive vs. reflective) X 2 (number of rejections: four vs. two) X 4 (message: friendly vs. neutral vs. mean vs. none) mixed-factorial design with repeated measures on the first factor.

Material and Procedure

We created three messages supposed to represent a friendly, a neutral, and a mean rejection, see *Appendix*. In a pretest, 60 participants (29 female, M_{age} = 33.20, *SD* = 11.04) rated the messages on friendliness *(1 = very unfriendly, 7 = very friendly)* and ambiguity (*1 = very unclear, 7 = very clear*). While messages differed markedly in friendliness in the expected directions, $F(2, 57) = 13.22$, $p < .001$, $\eta^2 = .32$, 90% CI = [.14, .44] ($M_{friendly}$ = 3.45, *SD* = 1.39, $M_{neutral}$ = 2.50, *SD* = 1.28, $M_{unfriendly}$ = 1.40, *SD* = 1.10), they were not significantly different in ambiguity, $F(2, 57) = 2.45$, $p = .095$.

The procedure was similar as in Study 3, except that participants completed only one trial. Participants either received two or four rejections combined with either a friendly, a neutral or a mean message from one of the apartment complex members, or they received no message at all.

Immediately after being rejected, participants answered questions about experienced need satisfaction, mood (9-point scales, see Studies 1 and 2) and pain (*0 = no pain, 10 = worst pain imaginable*). Subsequently, participants answered four questions assessing whether they understood the manipulations and instructions correctly (see Study 3). In addition, they rated the friendliness of the apartment members' communication, and also the friendliness of the apartment members themselves *(1 = very unfriendly, 9 = very friendly)*. They also rated how clear the reason for each of the member's decision was *(1 = not clear at all, 9 = very clear).*

To assess recovery, participants worked on an anagram unscrambling task for a minute before again rating their need satisfaction, mood, and pain. After providing final demographics, participants were debriefed and provided with a code to get paid.

Results

Manipulation checks. Thirty-four participants answered one or more manipulation checks incorrectly. Excluding these participants from the analysis did not change the general pattern of results, therefore the analyses are based on the full 249 participants. Because of the high correlation between friendliness of the person and friendliness of the communication (r =.88), both measures were collapsed to a single friendliness score. The type of message had a significant effect on friendliness, $F(3, 245) = 60.06$, $p < .001$, $\eta^2 = .42$, 90% CI = [.34, .48], all types of messages significantly differed from each other ($M_{friendly} = 4.23$, $SD = 1.83$; $M_{neutral} = 3.09$, $SD = 1.55$; $M_{none} = 2.17$, $SD = 1.16$; $M_{mean} = 1.04$, $SD = 0.22$). There was a significant effect of ambiguity as well, $F(3, 245) = 39.45$, $p < .001$, $\eta^2 = .33$, 90% CI = [.24, .39]. Receiving any message led to less ambiguity than receiving no message at all ($M_{friendly} = 4.74$, $SD = 2.05$; $M_{neutral} = 3.56$, $SD = 2.16$, $M_{mean} = 4.18$, $SD = 2.59$, $M_{none} = 1.16$, $SD = 0.90$), moreover, the friendly message resulted in less ambiguity than the neutral one.

Dependent variables. A 2 (stage: reflexive vs. reflective) x 2 (number of rejections: two vs. four) x 4 (message: friendly vs. neutral vs. mean vs. none) MANOVA on need satisfaction, mood and pain revealed a significant effect of the stage, Wilks' $\lambda = .408$, $F(3, 239) = 115.60$, $p < .001$, $\eta^2 = .59$, 90% CI = [.53, .64], indicating that overall participants recovered during the delay. Moreover, there were marginally significant effects of the message, Wilks' $\lambda = .939$, $F(9, 239) = 1.69$, $p = .088$, $\eta^2 = .02$, 90% CI = [.00, .08] and a two-way interaction stage x message, Wilks' $\lambda = .937$, $F(9, 239) = 1.74$, $p = .077$, $\eta^2 = .02$, 90% CI = [.00, .08], which were both qualified by a three-way interaction between stage x number of rejections x message, Wilks' $\lambda = .928$, $F(9, 581.81) = 2.01$, $p = .036$, $\eta^2 = .03$, 90% CI = [.00, .04]. All other possible effects and

interactions were not significant (all $p > .221$). To deconstruct the interaction, we analyzed the two stages separately.

Reflexive Stage. In the reflexive stage, there were no significant effects of either the message or the number of rejections for any of the dependent variables (all $p > .295$).

Reflective Stage. In the reflective stage there was a significant effect of the message on both Need Satisfaction and Mood (Need Satisfaction: $F(3, 241) = 3.36$, $p = .020$, $\eta^2 = .04$, 90% CI = [.00, .08]; Mood: $F(3, 241) = 3.29$, $p = .021$, $\eta^2 = .04$, 90% CI = [.00, .08]) and a significant interaction between message x number of rejections (Need Satisfaction: $F(3, 241) = 3.26$, $p = .022$, $\eta^2 = .04$, 90% CI = [.00, .08]; Mood: $F(3, 241) = 3.61$, $p = .014$, $\eta^2 = .04$, 90% CI = [.00, .08]). For pain, the effect and the interaction missed conventional significance, $F(3, 241) = 2.21$, $p = .088$, $\eta^2 = .03$, 90% CI = [.00, .06] and $F(3,241) = 2.42$, $p = .067$, $\eta^2 = .03$, 90% CI = [.00, .06], though the pattern of results was in line with the results described below.

Effect of the Message. To test the hypothesis that receiving any message compared to no message would result in more need satisfaction and positive mood, we specified a contrast testing the no message condition against the other three message conditions (contrast weights: 1 1 1 -3). The contrast was significant for both need satisfaction $t(245) = 3.06$, $p = .002$ and mood, $t(89.04) = 2.86$, $p = .005$. Receiving no message at all resulted in lower need satisfaction compared to the average of the other groups ($M_{none} = 4.15$, $SD = 1.88$ vs. $M_{friendly} = 4.95$ $SD = 1.95$; $M_{neutral} = 5.23$ $SD = 2.04$; $M_{mean} = 4.97$, $SD = 2.18$). It also led to decreased mood, ($M_{none} = 4.70$, $SD = 1.97$ vs. $M_{friendly} = 5.30$, SD = 2.18, $M_{neutral} = 5.71$, $SD = 2.02$, $M_{mean} = 5.72$, $SD = 2.20$). Means with standard errors are displayed in Figure 3.

Message x Number of Rejections. We obtained an unexpected interaction between the message and the number of rejections and thus conducted an exploratory analysis. In most

message conditions, there was no significant difference between receiving four or two rejections (all $p > .138$). However, participants who received a friendly message reported significantly more need satisfaction ($M_{Four} = 5.61$, $SD = 1.84$, $M_{Two} = 4.24$, $SD = 1.83$), better mood ($M_{Four} = 5.98$, $SD = 2.11$, $M_{Two} = 4.58$, $SD = 2.04$) and less pain ($M_{Four} = 2.91$, $SD = 2.28$, $M_{Two} = 4.34$, $SD = 2.44$) when they had received four compared to two rejections, $F(3, 239) = 2.94$, $p = .034$, $\eta^2 = .04$.

Discussion

Study 4 further supports our assumption that it is in fact acknowledgment that moderates recovery after being rejected. After a delay, participants reported significantly more need satisfaction and better mood if they had received any message than if they had received none. Though not significant, the results for pain showed a similar pattern. Even if participants were explicitly told that they were disliked and therefore rejected, need satisfaction was better compared to participants who received no message at all. The respective patterns did not emerge in the reflexive stage, which is a typical finding when investigating processes that involve higher cognitive processing or reattribution (Williams, 2009).

The total number of rejections did not influence results, save for one exception: In the friendly message condition, participants who had received two rejections reported significantly less need satisfaction and worse mood than participants who had received four rejections. We believe that this unexpected result might have been due to counterfactual thinking (Roese, 1997): In the rules of the game it was established that half of the members of an apartment complex had to agree with the participant moving in, that is, participants in the two rejections conditions only needed one positive answer. Accordingly, participants in the friendly / two rejections condition might have felt that they were very close to getting accepted and might have ruminated more

about possible reasons why they were not, which might have interfered with recovery. Additionally, they might have perceived their co-players as rather positive on average, which is why it might have been especially disappointing to get rejected by them.

General Discussion

Research on ostracism has repeatedly demonstrated that excluded individuals are highly sensitive to social cues, which is thought to be motivated by their need to reaffiliate. In the present research, we investigate the effects of experiencing minimal acknowledgment during an exclusion episode. Four studies show that even minimal inclusionary cues, such as receiving a few ball tosses at the end of a Cyberball game (minimal reinclusion), or an acknowledging message, can mend the sting of exclusion. Study 4 demonstrated that even receiving a hostile message resulted in an improved recovery compared to being rejected without comment. The studies highlight the importance of receiving even a minimum of acknowledgment in the face of ostracism.

The Importance of being Acknowledged

One important finding is that the nature of the acknowledgement seemed to be almost irrelevant (one exception being whether the beneficial effect occurred in the reflexive or in the reflective stage, see below). Especially Study 4 suggests that compared to being ignored altogether, it is preferable to face hostile criticism during a rejection experience. However, whether the received message was nice or nasty did not seem to affect recovery. This result challenges the general assumption that individuals are primarily motivated to achieve belongingness following ostracism. Instead, the present contribution suggests that an ostracized individual's primary goal is to matter and to be acknowledged.

In Study 4, participants in the no-message condition rated the reason for the members' decision as more ambiguous than participants in the message conditions. Therefore, one could speculate whether not minimal acknowledgement per se but rather the reduction of uncertainty or ambiguity causes the increase in need satisfaction. However, the link between ambiguity and need satisfaction is not consistent across the different message types (neutral, friendly, hostile), suggesting that ambiguity is not a causal mediator. This was confirmed in an exploratory analysis with ambiguity as mediating variable.

Against this background, mere acknowledgement remains the most plausible explanation for the reported results. This interpretation is also in line with findings from Wesselmann and colleagues (2012), who showed that individuals experienced more need satisfaction when they were looked at by a stranger instead of being "looked at as though air;" however, an additional friendly smile by the stranger did not improve need satisfaction any further. Metaphorically, one might thus think of minimal acknowledgement as a bandage that is applied following the sting of ostracism: It may not heal the wound itself, but it may stop the bleeding and thereby aid recovery.

Reflexive and Reflective Reactions to Acknowledgement

It is of particular interest that the effects of acknowledgment were detected in different stages. While Studies 1 and 2 found effects of being reincluded during the immediate, reflexive stage, the effects of receiving a message in Studies 3 and 4 occurred after some time had passed, that is, in the reflective stage. We believe that these differences are due to the different forms of minimal acknowledgement: While Studies 1 and 2 investigate minimal reinclusion after an ostracism episode, Studies 3 and 4 operationalize minimal acknowledgment in the form of a message that is independent of the group's decision to reject the participant. It is possible that such a form of verbal acknowledgment, that does not alter the exclusion per se, takes more time

and cognitive resources to process. Still, if individuals feel that they understand why they were ostracized, they might be able to complete recovery more quickly than if they are unsure of the reason.

In contrast, minimal reinclusion might act as an immediate relief. However, following an initial bump in need satisfaction, individuals might start to ruminate about why they were excluded in the first place and whether it might happen again. Consequently, it is possible that even if individuals are reincluded after an ostracism episode, they might still suffer from negative long-term effects that delay recovery.

Practical Implications

There are several practical implications that can be derived from the critical role of acknowledgment. First, it stresses the important role of acknowledgement during selection procedures that necessarily contain rejections. In order to make these as painless as possible, human resource executives, universities, landlords or any other institutions dealing with selection might be well advised to grant rejected candidates at least minimal acknowledgment, for instance in form of a letter or email. The same goes for the use of (justified) criticism, for instance in the workplace: Even though individuals might initially dislike being criticized, in the long run they might be more satisfied having received this negative acknowledgement compared to receiving no feedback at all. This is especially important given that individuals can possibly also learn better from well-phrased criticism than from dead silence.

Second, offices which attend to bullying in the workplace or at schools would do well to pay more attention to the more inconspicuous act of "ignoring" others. This is also in line with other research that has found ostracism to have more severe effects on victims than active aggression or bullying (O'Reilly et al., 2015; Van Beest & Williams, 2006; Williams & Nida,

2009). Unfortunately, ostracism is not only harder to detect than bullying, but also harder to sanction; additionally, ostracism might also happen involuntarily and without negative intent. Inclusionary measures that prompt people to pay more attention to one another and acknowledge each other's actions might be a promising alternative to punishments for ostracizers.

Conclusion

Taken together, the present contribution indicates that while humans are quick to notice and react to exclusionary threats, they also quickly react to minimal inclusion cues. Additionally, our research provides evidence that *mere acknowledgment* is a highly important factor that can start to restore an excluded individual's fundamental needs and that can be conveyed by minor things such as a single ball throw, eye gaze, or even an unfriendly message.

References

Bernstein, M. J., Young, S. G., Brown, C. M., Sacco, D. F., & Claypool, H. M. (2008). Adaptive responses to social exclusion social rejection improves detection of real and fake smiles. *Psychological Science, 19*, 981-983. doi: 10.1111/j.1467-9280.2008.02187.x

DeWall, C. N., Maner, J. K., & Rouby, D. A. (2009). Social exclusion and early-stage interpersonal perception: Selective attention to signs of acceptance. *Journal of Personality and Social Psychology, 96*, 729-740. doi: 10.1037/a0014634.

DeWall, C. N., Twenge, J. M., Bushman, B., Im, C., & Williams, K. D. (2010). A little acceptance goes a long way: Applying social impact theory to the rejection–aggression link. *Social Psychological and Personality Science, 1*, 168-174. doi: 10.1177/1948550610361387

Eisenberger, N. I., & Lieberman, M. D. (2004). Why rejection hurts: A common neural alarm system for physical and social pain. *Trends in Cognitive Sciences, 8*, 294-300. doi: 10.1016/j.tics.2004.05.010

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*, 290-292. doi: 10.1126/science.1089134

Faul, F., Erdfelder, 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*, 175-191. doi: 10.3758/BF03193146

Gardner, W. L., Pickett, C. L., & Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin, 26*, 486-496. doi: 10.1177/0146167200266007

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

Hartgerink, C. H., 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*, e0127002. doi: 10.1371/journal.pone.0127002

Heine, S. J., Proulx, T., & Vohs, K. D. (2006). The meaning maintenance model: On the coherence of social motivations. *Personality and Social Psychology Review, 10*, 88-110.

James, W. (1890). The Principles of Psychology (Vol. 1). New York: Dover Publications.

Jones, E. E., & Kelly, J. R. (2010). "Why am I out of the loop?" Attributions influence responses to information exclusion. *Personality and Social Psychology Bulletin, 36*, 1186-1201. doi: 10.1177/0146167210380406

Kahneman, D., Fredrickson, B. L., Schreiber, C. A., & Redelmeier, D. A. (1993). When more pain is preferred to less: Adding a better end. *Psychological Science, 4*, 401-405. doi: 10.1111/j.1467-9280.1993.tb00589.x

Kassner, M. P., Wesselmann, E. D., Law, A. T., & Williams, K. D. (2012). Virtually ostracized: studying ostracism in immersive virtual environments. *Cyberpsychology, Behavior, and Social Networking, 15*, 399-403.

Kerr, N. L., & Levine, J. M. (2008). The detection of social exclusion: Evolution and beyond. *Group Dynamics: Theory, Research, and Practice, 12*, 39-52. doi: 10.1037/1089-2699.12.1.39

Leary, M. R. (2005). Varieties of interpersonal rejection. In K. D. Williams, J. P. Forgas & W. von Hippel (Eds.), *The Social Outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 35-51). New York, NY: Psychology Press.

Leary, M. R., & Downs, D. L. (1995). Interpersonal functions of the self-esteem motive. In M. H. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 123-144). New York, NY: Plenum.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*, 518-530. doi: 10.1037/0022-3514.68.3.518

MacDonald, G., & Leary, M. R. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin, 131*, 202-223. doi: 10.1037/0033-2909.131.2.202

McCullough, M. E., Worthington Jr, E. L., & Rachal, K. C. (1997). Interpersonal forgiving in close relationships. *Journal of Personality and Social Psychology, 73*, 321-336. doi: 10.1037/0022-3514.73.2.321

O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. (2015). Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science, 26*, 774-793. doi:10.1287/orsc.2014.0900

Pickett, C. L., & Gardner, W. L. (2005). The social monitoring system: Enhanced sensitivity to social cues as an adaptive response to social exclusion. In K. D. Williams, J. P. Forgas & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 213-226). New York: Psychology Press.

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*, 1095-1107. doi: 10.1177/0146167203262085

Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin, 130*, 435-468. doi: 10.1037/0033-2909.130.3.435

Riva, P., Wirth, J. H., & Williams, K. D. (2011). The consequences of pain: The social and physical pain overlap on psychological responses. *European Journal of Social Psychology, 41*, 681-687. doi: 10.1002/ejsp.837

Roese, N. J. (1997). Counterfactual thinking. *Psychological Bulletin, 121*, 133-148. doi: 10.1037/0033-2909.121.1.133

Rudert, S. C., & Greifeneder, R. (2016). *When it's okay that I don't play: Social norms guide the situated construal of social exclusion*. Manuscript submitted for publication.

Sacco, D. F., Wirth, J. H., Hugenberg, K., Chen, Z., & Williams, K. D. (2011). The world in black and white: Ostracism enhances the categorical perception of social information. *Journal of Experimental Social Psychology, 47*, 836-842. doi: 10.1016/j.jesp.2011.03.001

Tang, H. H., & Richardson, R. (2013). Reversing the negative psychological sequelae of exclusion: Inclusion is ameliorative but not protective against the aversive consequences of exclusion. *Emotion, 13*, 139-150. doi: 10.1037/a0029521

Van Beest, I., & Williams, K. D. (2006). When inclusion costs and ostracism pays, ostracism still hurts. *Journal of Personality and Social Psychology, 91*, 918-928. doi: 10.1037/0022-3514.91.5.918

Wesselmann, E. D., Cardoso, F. D., Slater, S., & Williams, K. D. (2012). To be looked at as though air: Civil attention matters. *Psychological Science, 23*, 166-168. doi: 10.1177/0956797611427921

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In P. Z. Mark (Ed.), *Advances in Experimental Social Psychology* (Vol. 41, pp. 275-314). San Diego, CA: Elsevier Academic Press.

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology, 58*, 425-452.

Williams, K. D., Cheung, C. K., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*, 748-762. doi: 10.1037/0022-3514.79.5.748

Williams, K. D., & Nida, S. A. (2009). Is ostracism worse than bullying? In M. J. Harris (Ed.), *Bullying, rejection, and peer victimization: A social cognitive neuroscience perspective* (pp. 279-296). New York, NY: Springer Publishing Company.

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*, 560-567. doi: 10.1016/j.jesp.2003.11.006

Table 1

Schedule of Cyberball throws for each condition in Study 1

Condition:	Throws 1 - 10	Throws 11 - 20	Throws 21 - 30
Full Inclusion	3	3	3
Full Ostracism	0	0	0
Reinclusion	0	0	3

Table 2

Means and Standard Deviations (in parentheses) of Study 1

	Full Inclusion	Full Ostracism	Reinclusion
Manipulation Checks:			
Ignored and excluded in beginning of game	2.00 (1.17)	4.72 (.52)	4.40 (.88)
Ignored and excluded in middle of game	1.90 (1.10)	4.72 (.48)	3.54 (1.18)
Ignored and excluded in end of game	1.66 (1.06)	4.47 (.48)	2.16 (1.10)
Estimated percent of throws received	29.48% (9.39)	0.28% (.54)	12.48% (6.89)
Reflexive Stage:			
Need Satisfaction	3.44 (.70)	2.10 (.54)	2.50 (.70)
Mood	3.99 (.60)	3.00 (.75)	3.05 (.79)
Embarrassment	1.08 (.40)	2.56 (1.36)	2.28 (1.21)
Discomfort	1.48 (.87)	2.72 (1.37)	2.64 (1.15)
Awkwardness	1.80 (1.04)	3.52 (1.30)	2.80 (1.16)
Reflective Stage:			
Need Satisfaction	3.80 (.47)	3.32 (.72)	3.31 (.84)
Mood	4.06 (.63)	3.31 (.71)	3.27 (.77)

Note: Embarrassment, discomfort and awkwardness were not measured in the reflective stage.

Table 3

Schedule of Cyberball throws for each condition in Study 2

Condition:	Throws 1 - 10	Throws 11 - 20	Throws 21 - 30
Full Inclusion	3	3	3
Full Ostracism	0	0	0
Reinclusion	0	0	3
Minimal Reinclusion	0	0	1 (out of the final three throws)

Table 4

Means and Standard Deviations (in parentheses) of Study 2

	Full Inclusion	Full Ostracism	Reinclusion	Minimal Reinclusion
Manipulation Checks:				
Ignored and excluded in beginning of game	1.98 (.91)	4.37 (1.03)	4.31 (.91)	4.31 (1.04)
Ignored and excluded in middle of game	2.00 (.94)	4.37 (.98)	3.67 (.99)	4.13 (1.02)
Ignored and excluded in end of game	1.69 (.93)	4.37 (1.01)	2.09 (.89)	2.57 (1.09)
Estimated percent of throws received	31.43 (8.30)	2.15 (4.19)	13.29 (7.33)	6.11 (4.64)
Reflexive Stage:				
Need Satisfaction	3.68 (.58)	1.97 (.62)	2.56 (.61)	2.27 (.69)
Mood	4.03 (.63)	2.89 (.59)	3.12 (.81)	3.15 (.82)
Hostility	1.85 (.68)	2.65 (.76)	2.48 (.82)	2.44 (.82)
Forgiveness	4.24 (.48)	3.55 (.64)	3.66 (.67)	3.85 (.63)
Reflective Stage:				
Need Satisfaction	4.04 (.50)	3.72 (.58)	3.57 (.59)	3.86 (.58)
Mood	4.47 (.42)	4.18 (.63)	3.97 (.81)	4.15 (.73)

Note: Hostility and forgiveness were not measured in the reflective stage.

Table 5

Means and Standard Deviations (in parentheses) of Study 3

		Four Rejections	Three Rejections
Need Satisfaction	Message first	2.74 (1.48)	2.30 (1.45)
	Message last	2.62 (1.54)	2.61 (1.69)
Hurt	Message first	5.04 (2.27)	5.51 (2.43)
	Message last	5.01 (2.54)	5.55 (2.60)
Discomfort	Message first	5.97 (2.15)	6.23 (2.14)
	Message last	6.03 (2.43)	6.11 (2.62)
Comfort	Message first	3.57 (1.76)	3.30 (1.96)
	Message last	3.07 (2.06)	2.73 (2.04)

Table 6

Means and Standard Deviations (in parentheses) of Study 3

Dependent Variables	Independent Variables	
	Message first	Message last
Choice	6.28 (2.36)	5.42 (2.67)
Application comfortable	6.19 (2.30)	5.58 (2.39)
Application annoying	3.84 (3.44)	3.44 (2.67)
Application tougher	4.52 (2.58)	4.17 (2.46)

Note: The dependent variables were measured as semantic differentials with the two apartment options as scale ends. Higher values (> 5) indicate a response tendency towards the trial with the message, lower values (< 5) a response tendency towards the trial without the message.

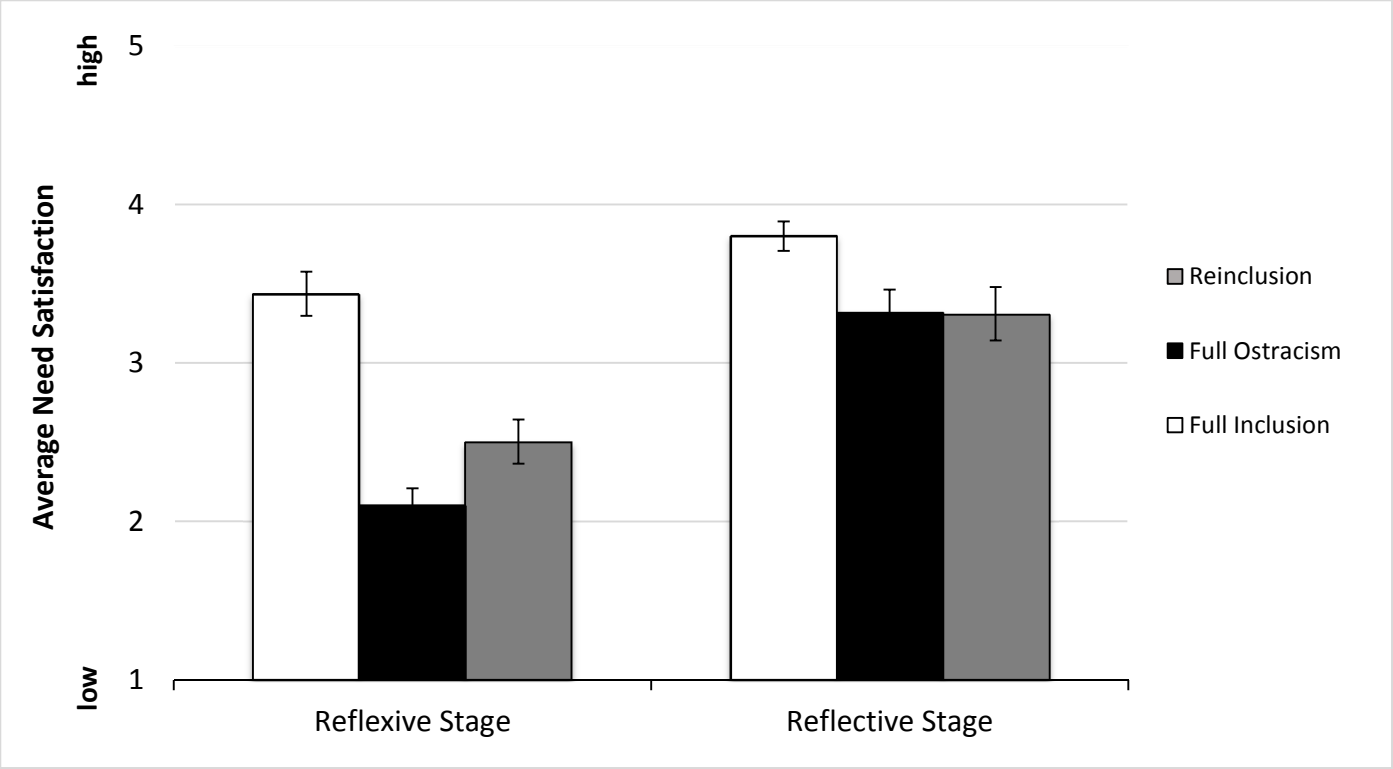

Figure 1. Reflexive and reflective basic needs satisfaction in fully included, fully ostracized, and reincluded participants in Study 1. Error bars represent standard errors of the mean.

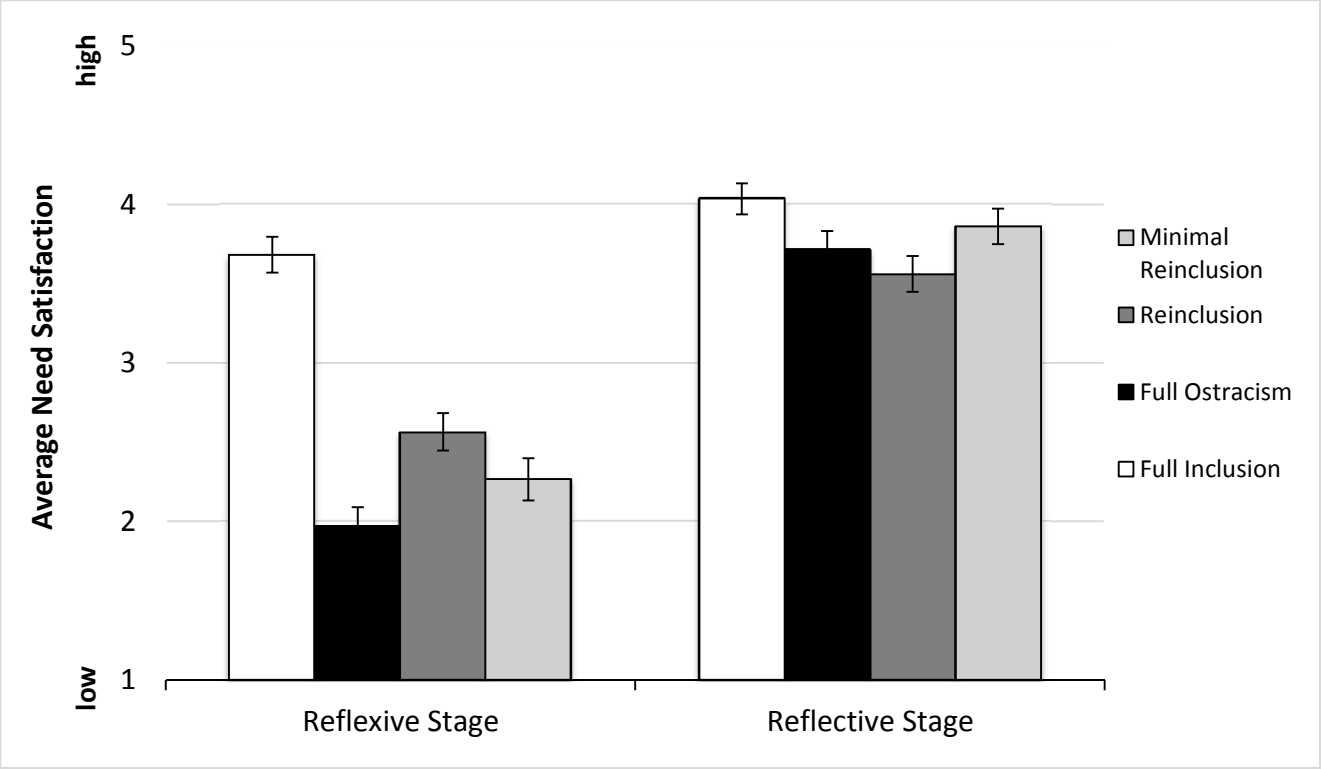

Figure 2. Reflexive and reflective basic needs satisfaction in fully included, fully ostracized, reincluded, and minimally reincluded participants in Study 2. Error bars represent standard errors of the mean.

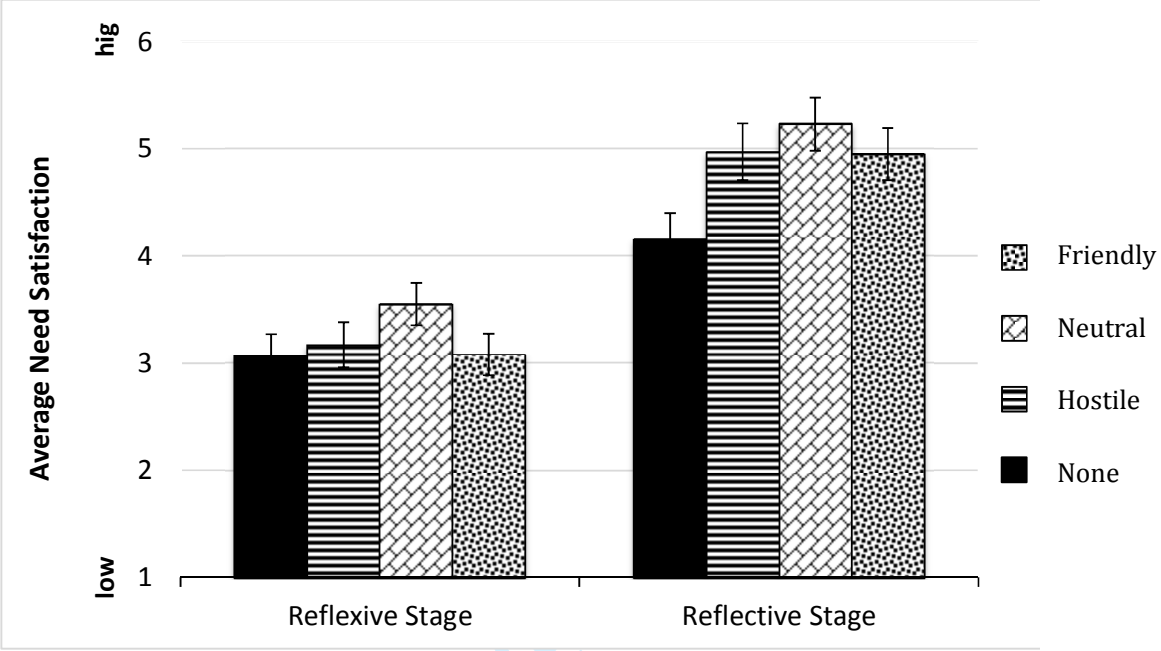

Figure 3. Reflexive and reflective basic needs satisfaction receiving a friendly, neutral, hostile or no message in Study 4. Error bars represent standard errors of the mean.

Appendix

Hi [Participant's nickname],

I received your request to become a member of our apartment unit. I have read you bio and interests, and you seem to be a nice person. Anyways, I prefer another person who has applied.

I feel bad about this, but you need to continue your search, because I will reject you.

I hope you'll find something soon.

Best, Pat

Hi [Participant's nickname],

I received your request to become a member of our apartment unit. I have read you bio and interests. Anyways, I prefer another person who has applied.

I feel mixed about this, but you need to continue your search, because I will reject you.

There are other available housing options.

Bye, Pat

Hi [Participant's nickname],

I received your request to become a member of our apartment unit. I have read you bio and interest, and you seem to be an awful person. Anyways, I prefer another person who has applied.

It pleases me that you need to continue your search, because I will reject you.

Really don't care where you live, but not here.

Pat

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EDUCATION

2015	Visiting Scholar at Purdue University, Indiana, USA
Since 2012	Ph.D. Studies at the University of Basel, Department of Social Psychology
2010	Graduate studies in Psychology at Bond University, Gold Coast (Australia)
2006 - 2012	Undergraduate and graduate studies in Psychology at the University of Mannheim Final degree in Psychology ("Diplom"), Final Grade: 1.1 (A-level)

EMPLOYMENT

Since 2012	Researcher and lecturer at the University of Basel, Department of Social Psychology
2008 – 2012	Research assistant at the University of Mannheim, Department of Social Psychology

GRANTS AND SCHOLARSHIPS

2015 - 2016	EASP Seedcorn grant for the project "Attributions for Observed Ostracism as a Function of In-group versus Out-group Status"
2014 - 2016	Research grant by the Biäsch Foundation for Applied Psychology for the project "Your fault? Social exclusion and perceived norm-violations from an observer's perspective"
2014	Scholarship by antelope (career support program for young female scientists)
2010 - 2011	Scholarship by the German Academic Exchange Service (DAAD)
2010 - 2012	Scholarship by the Friedrich-Ebert Foundation

PROFESSIONAL SERVICE

Since 2014	Review for: European Journal of Social Psychology, Basic and Applied Social Psychology, Cognition and Emotion, Journal of Economic Psychology
Since 2011	Reviewer and author for www.forschung-erleben.de; online portal that communicates research in social psychology to the broad public

PROFESSIONAL TRAINING

2014	Participation in the EASP summer school, Lisbon, Portugal Participation in antelope, a career support program for young female scientists (competitive selection; entails several workshops and professional counseling)
Since 2014	Participation in the SWE doctoral program
Since 2013	Several courses in university didactics

PROFESSIONAL ORGANIZATION MEMBERSHIP

Since 2015	Society for Personality and Social Psychology
Since 2014	European Association of Social Psychology

TEACHING EXPERIENCE

2012 - 2016	Undergraduate and graduate seminars as well as project seminar courses
Since 2012	Supervision of several research interns

RESEARCH EXPERIENCE

Publications

Rudert, S. C., Reutner, L., Greifeneder, R., & Walker, M. (2017). Faced with exclusion: Perceived facial warmth and competence influence moral judgments of social exclusion. *Journal of Experimental Social Psychology, 68,* 101-112. doi: 10.1016/j.jesp.2016.06.005

Rudert, S.C. & Greifeneder, R. (2016). When it's okay that I don't play: Social norms and the situated construal of social exclusion. *Personality and Social Psychology Bulletin, 42*(7), 955 - 969. doi: 10.1177/0146167216649606

Rudert, S.C., Reutner, L., Walker, M., & Greifeneder, R. (2015) An unscathed past in the face of death: Mortality salience reduces individuals' regrets. *Journal of Experimental Social Psychology, 58,* 34-41. doi:10.1016/j.jesp.2014.12.006

Schoel, C., Roessel, J., Eck, J., Janssen, J., Petrovic, B., Rothe, A., Rudert, S.C., & Stahlberg, D. (2013). Attitudes Towards Languages (AToL) scale: A global instrument. *Journal of Language and Social Psychology*, *32*, 21 – 45, doi: 10.1177/0261927X12457922

Eichinger, L., Gärtig, A-K., Plewnia, A., Roessel, J., Rothe, A., Rudert, S., Schoel, C., & Stahlberg, D. (2009). *Aktuelle Spracheinstellungen in Deutschland – Erste Ergebnisse einer bundesweiten Repräsentativumfrage*. Mannheim: Institut für Deutsche Sprache.

Manuscripts

Rudert, S.C., Hales, A.H., Greifeneder, R., & Williams, K.D. (2016). If you can't say something nice, please speak up anyway: Why it is important to be acknowledged even when being excluded. *Manuscript submitted to Personality and Social Psychology Bulletin.*

Rudert, S.C., Janke, S., & Greifeneder, R. (2016) Under threat by popular vote: Naturalistic exclusionary threat due to the Swiss vote against mass immigration. *Manuscript submitted to PLOS ONE.*

Janke, S., Rudert, S.C., Marksteiner, T., & Dickhäuser, O. (2016). The role of family background for belonging and well-being at university. *Manuscript submitted to Journal of Educational Psychology.*

Arpin, S.N., Froehlich, L., Lantian, A., Rudert, S. C., & Stelters, M. (2015). When "we" or "they" exclude others: Attributing and evaluating ostracism observed in ingroups and outgroups. *Revision submitted to Comprehensive Research in Social Psychology.* (All authors contributed equally and are listed in alphabetical order)

Conference presentations

Rudert, S.C., Reutner, L., Greifeneder, R. & Walker, M. (2016, January). *Cold shoulders to cold faces? Facial appearance influences moral judgements of social exclusion.* Poster presented at the 17th Annual Meeting of The Society for Personality and Social Psychology (SPSP), San Diego, CA.

Rudert, S.C. & Greifeneder, R. (2015, September) Wenn Ausschluss nicht wehtut. Soziale Normen beeinflussen die Konstruktion von Ausschlusssituationen. In J. Eck & S.C. Rudert (Chair), *Sozialer Ausschluss Teil 1*. Symposium conducted at the 15th conference of the Social Psychology section of the German Psychological Society (FGSP), Potsdam, Germany.

Eck, J. & Rudert, S. C. (2015, September). *Sozialer Ausschluss Teil 1.* Symposium conducted at the 15th conference of the Social Psychology section of the German Psychological Society (FGSP), Potsdam, Germany. Speakers: G. Echterhoff, J. Eck, M. Pfundmair, S. C. Rudert.

Rudert, S.C., Reutner, L., Greifeneder, R., & Walker, M. (2015, August). *Cold shoulders for cold-looking faces: Moral acceptance of social exclusion based on facial characteristics.* Talk at the 17th European Social Cognition Network (ESCON) Meeting, Bensheim, Germany.

Rudert, S.C., Greifeneder, R., Reutner, L. & Walker, M. (2015, March). *Selber schuld!? Moralische Akzeptanz von sozialer Ausgrenzung aus der Perspektive der Beobachtenden.* Talk at the Small Group Meeting "Bedrohung & Moral", Kassel, Germany.

Rudert, S.C. & Greifeneder, R. (2015, February). *Situating social exclusion: Social norms can reduce ostracism-induced threat and hurt.* Poster presented at the 16th Annual Meeting of The Society for Personality and Social Psychology (SPSP), Long Beach, CA.

Rudert, S.C., Janke, S., & Greifeneder, R. (2014, November). *Excluded and threatened by popular vote? Effects of the Swiss vote against mass immigration.* Talk at the 1st antelope conference, Basel, Switzerland.

Rudert, S.C. & Greifeneder, R. (2014, September). *What's the reason for being excluded? Social norms guide the interpretation of exclusion episodes for victims and observers.* Talk at the 16th European Social Cognition Network (ESCON) Meeting, Louvain-la-Neuve, Belgium.

Rudert, S. C., & Greifeneder, R. (2014, July). *Being excluded without feeling threatened: The influence of social norms on reflexive reactions to ostracism*. Talk at the 17. General Meeting of the European Association of Social Psychology (EASP), Amsterdam, The Netherlands.

Rudert, S. C., Reutner, L., Walker, M. & Greifeneder, R. (2013, September). *"Non, je ne regrette rien" - How death primes affect individual's regrets.* Talk at the 13. biannual congress of the Swiss Psychological Society (SGP), Basel, Switzerland.

Rudert, S. C., Reutner, L., Walker, M. & Greifeneder, R. (2013, September). *Regretting in the face of death.* Talk at the 14th conference of the Social Psychology Section of the German Psychological Society (FGSP), Hagen, Germany.

Rudert, S. C., Roessel, J., & Stahlberg, D. (2012, April). *But there IS a difference! SPSS scaling distorts the interpretation of statistical results.* Poster presented at the 54th conference of experimental psychology (TeaP), Mannheim, Germany.