An Integrated and Empirically Tested Social Psychological Model of Whistleblowing

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A Thesis submitted to Flinders University, South Australia, in fulfilment of the requirement for the degree of Doctor of Philosophy

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Approved 27th April 2018

CONTENTS

Summary

Whistleblowing is an important mechanism for helping to detect and correct wrongdoing within social groups and organisations (Brown, Mazurski, & Olsen, 2008; Dyck, Morse, & Zingales, 2010; Lavena, 2014; Miceli & Near, 1988; Miethe, 1999). Given that it involves the disclosure of ingroup wrongdoing to an external agent, it is important to develop a theoretical perspective of whistleblowing that accounts for the role of group memberships and processes (Dozier & Miceli, 1985; Near & Miceli, 1987). This suggests that a social psychological approach may advance understanding in this respect. And yet little work has explored whistleblowing's psychological motivations (Waytz, Dungan, & Young, 2013).

Using the social identity approach (after Tajfel & Turner, 1979; Turner, 1985), I propose a social psychological conceptualisation of whistleblowing that explicitly distinguishes it from intragroup dissent, addressing a literature that has tended to conflate these two phenomena. Specifically, whereas whistleblowing involves speaking out against ingroup wrongdoing to a person/group outside of the offending ingroup, intragroup dissent involves speaking out directly to the wrongdoer(s). I thus put forth a model of the whistleblowing process that speaks to the role of social identities and group memberships, stating the situations and contexts in which intragroup dissent and/or whistleblowing will be more likely. I propose that strength of identification with a superordinate group (i.e., a social identity) whose values have been violated by a subgroup's wrongdoing will predict how motivated an individual will be to report it to a relevant authority. The findings show that this relationship is likely to be mediated by a perceived sense of responsibility to act to correct the wrongdoing.

A corollary aspect of the social psychological model of whistleblowing speaks to power processes that are likely to shape whether an individual speaks up in dissent and/or engages in whistleblowing. I first elaborate on this aspect of the model, challenging the

implied dominant view of whistleblowers as powerless individuals (e.g., Callahan & Dworkin, 1994; Near & Miceli, 1985) by delineating between two types of perceived social power—intragroup and vicarious intergroup power. After clearly defining and distinguishing these two types of perceived power, I identify the contextual variables that contribute to them and the antecedents of dissent and whistleblowing that are likely to operate through them. I then outline how I developed and validated scales to measure these two distinct types of power. The evidence supports the distinction between the two psychological constructs of power, intragroup and vicarious intergroup power. Once motivated to act against ingroup wrongdoing, intragroup power predicts the likelihood that one will speak out in dissent, and vicarious intergroup power predicts the likelihood that one will blow the whistle.

Overall, the empirical findings provide the first line of support for my social psychological model of whistleblowing, suggesting that social identities and power processes play critical roles in the whistleblowing decision.

Declaration

‘I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.’

Farid Anvari …… NAME

09/01/2018 ……. DATE

Acknowledgements

I have thoroughly enjoyed my PhD experience. There has been no point at which I sat in front of my desk wishing I were elsewhere doing something else. And, for this, I give gratitude to those who made such an experience not only possible, but actual.

The making or breaking of the PhD experience begins with the supervisors. Michael and Lydia have been supportive of my learning throughout the entire process. Their office doors were open to me at all times and their minds open to discourse. The reason I have developed into an independent researcher, with a critical mind, is because of their guidance. They were more instrumental for my growth than I could have imagined and, together, they provided a platform from which to launch into my scientific career. I thank you both dearly, for without you as my guides and mentors I would not be the researcher that I have become. In addition, Alex Haslam has provided great insight into the theoretical components of my thesis and has provided feedback that has substantially improved my writing.

I had the fortune to marry the most supportive and beautiful woman I have ever known, and that I will ever know. Jana has supported me throughout my moments of angst and existential crisis, advising and directing my enthusiasm through the best possible course when making the difficult decisions. Thank you for nurturing my ambition and steering me through my own doubts. You have been more supportive of me than I believe anyone else could be in any marriage and I hope that I have been and continue to be as generous with you. You have been instrumental not only in my development as an academic but also as a person. I cannot show you enough gratitude.

I have made many friends during my PhD. These are relationships that to me have brought value. Given the constraints on space I will name two. Jeremy, our discussions on the nature of consciousness have been a delight. And because of you I have pursued insights that have shaped my views about my conscious experiences. Kymberly, sharing an office with

you has been, simply put, the best. I loved our lively debates discussions about open science practices. You kept me honest.

There is one group at Flinders who were influential in shaping my scientific thinking more than they know. Joining the cognition lab's journal weekly journal club has been a formative experience for me. I have learned from their criticisms and appraisals of the papers we have shared over the years various important aspects of the experimental design. It is clear, at least to me, that cognitive psychologists have better experimental designs than social psychologists and there is much for us to learn from them. Though I must say that disciplinary lines seem somewhat arbitrary to me and I feel that the research questions we pursue can benefit from input from researchers in various fields.

Finally, I want to show a depth of gratitude for my parents. Most of us use narratives to make sense of our lives and of ourselves. Our narratives can shape our self-concepts and how we move through the river of life. The narratives that most shaped my pursuit of knowledge and growth come from my parents. My father, who was raised through the hardships of extreme poverty, noticed that education is a form of salvation. From him I learned the value of perseverance and determination. I watched my mother transform from a shy reclusive woman to a social butterfly, while in a foreign country and hardly speaking the language (which she now does better than she knows). From her I learned the power of transformation, and its difficulty. It is because of my parents that I believed, and it is because of them that I have persevered and transformed myself into what I am, and into what I am becoming.

Farid Anvari

January 2018

Statement of Authorship

Chapter 1

Anvari, Wenzel, Woodyatt, & Haslam, (2017). *The social psychology of whistleblowing: An integrated model*. Manuscript in preparation.

Chapter 2

Anvari, F., Wenzel, M., & Woodyatt, L. (2017). *Divided loyalties: Evidence for the social identity model of whistleblowing*. Manuscript submitted for publication.

Chapter 3

Anvari, F., Wenzel, M., & Woodyatt, L. (2017). *Power within and power from without: Advancing the psychology of whistleblowing*. Manuscript in Preparation.

Chapter 4

Anvari, F., Wenzel, M., & Woodyatt, L. (2017). *Power from within and without: Evidence for two distinct constructs of power in dissent and whistleblowing*. Manuscript submitted for publication.

CHAPTER 1: The Social Psychology of Whistleblowing: An Integrated Model

In 2013 Edward Snowden leaked thousands of classified documents to the public while working as a subcontractor for the United States National Security Agency (NSA). Through this act of whistleblowing Snowden knowingly risked retaliation by the NSA and the U.S. government, and effectively sentenced himself to exile away from his home country, first in Hong Kong and then later in Moscow. Whistleblowing was therefore not an easy or cost-free way for him to protest against organizational wrongdoing. It is generally the case that whistleblowers who voice opposition to group behavior take on considerable risks for themselves, including loss of income and career opportunities and even imprisonment. For example, in 2015 the Australian government passed anti-whistleblowing laws that threaten 10 years in prison for those who reveal governmental wrongdoing when the government considers the disclosed material to be classified ("Fact check", 2014). At the same time, legislation was enacted that made it illegal for health professionals to report on problematic conditions and abuses in detention centres that hold asylum seekers who reach Australian borders by boat.[1] Nevertheless, as an act of fiance, on the very day that these laws came into effect, over 40 health workers and humanitarian staff disclosed abuses occurring at one of the detention centres (Farrell, 2015).

Indeed, despite the considerable costs that it often entails, whistleblowing appears to be on the rise. High-profile whistleblowers such as Snowden, Chelsea Manning, and Julian Assange—the most visible of cases in recent years—have been referred to as "the first arrivals of the wave still to come" (Watson, 2013). This observation appears to be borne out

[1] As of October 2016, these restrictions on health professionals have been removed (Hall, 2016).

by the fact that in 1980, 26% of federal employees who observed wrongdoing reported it, but 40% did so in 1983, and 48% in 1992 (Miceli, Rehg, Near, & Ryan, 1999).

Given the potential for high personal costs, this evidence raises one obvious question: What motivates people to engage in whistleblowing? To answer this, over the past 30 years, organizational researchers have examined the structural antecedents of whistleblowing, but in the process provided only a limited examination of its psychological underpinnings (Waytz, Dungan, & Young, 2013). Nevertheless, it seems likely that group memberships and associated processes have some role to play in the decision to blow the whistle (see Dozier & Miceli, 1985; Near & Miceli, 1987). As yet though, these factors have not been integrated into formal models of the process.

The present paper addresses this lacuna by using the social identity perspective (after Tajfel & Turner, 1979) to explore the impact of social identities and related group processes on the dynamics of whistleblowing. In addition, our analysis expands upon current models of normative conflict—defined as "a perceived discrepancy between the current norms of a group and another standard for behavior" (Packer, 2008, p. 4)—by including whistleblowing as a potential response to ingroup wrongdoing. In Packer's (2008) normative conflict model, group members' responses to normative conflict have included silence, conformity, exit (or disengagement from the group), as well as expressions of intragroup dissent (speaking up *within* the group against its norms or actions). We argue that whistleblowing is another response also available to ingroup members that has hitherto been neglected in the normative conflict (and more broadly in the social identity) literature. Accordingly, the inclusion of whistleblowing as a distinct response to perceived ingroup wrongdoing, alongside dissent, paints a more complete picture of how people can challenge what they see as problematic group behavior.

The Importance of Whistleblowing

There are several compelling reasons to want to advance a theoretical understanding of whistleblowing. First and foremost, whistleblowing is a critical instrument for a group, organization, or society to promote and uphold its moral standards. This is because it is an important mechanism for preventing and detecting organizational wrongdoing (Brown, Mazurski, & Olsen, 2008; Dyck, Morse, & Zingales, 2010; Lavena, 2014; Miceli & Near, 1988; Miethe, 1999), whether in the public or private sector (Proost, Pavlinska, Baillien, Brebels, & Van Den Broeck, 2013). Others have noted that this is particularly important in the context of the increasing complexity and reduced public visibility of many organizational practices (Miethe, 1999).

The importance of whistleblowing is underlined by evidence that early in the 21st century it was responsible for almost 20% of major corporate fraud cases in the U.S. (Dyck et al., 2010). Moreover, a 2009 PricewaterhouseCoopers study of over 3,000 companies worldwide revealed that 34% of incidents of economic crime were detected through whistleblowing, a figure that rose to 48% in the U.S. (Fredin, 2012). In science, the website Retraction Watch (www.retractionwatch.com) shows that whistleblowers have been responsible for uncovering several high-profile cases of data fabrication and scientific fraud (e.g., Stokes, 2012). Indeed, whistleblowing may be *the* primary mechanism for fraud detection in scientific communities (Gross, 2016; Stroebe, Postmes, & Spears, 2012).

This is not to say that whistleblowing's impact is necessarily or inherently good. However, whistleblowing (like other forms of defiance; e.g., Haslam & Reicher, 2012) *can* help to correct ethical breaches that are sometimes costly to society. For without it, unreported organizational wrongdoing may continue, fester, and even become the organizational norm with the result that any potentially negative consequences go unchecked. Certainly, whistleblowing may create instability for an organization in the short term, but it

can also help to reduce organizational costs in the long term (Miceli & Near, 1985, 1988). In some cases, whistleblowing can prove critical for an organization's prosperity or its very survival. Not least, this is because a whistleblower's report of wrongdoing by their workgroup to an oversight unit in the same organization can help avoid negative publicity and legal issues associated with public reporting, *if* the report is dealt with effectively so that the organization itself does not become complicit in the wrongdoing (Miceli & Near, 1985, 1988). Furthermore, the high percentage (approximately 50%; Fredin, 2012) of observed wrongdoing that go unreported may be reduced by processes that foster whistleblowing.

A Psychological Definition of Whistleblowing

Prevailing definitions of whistleblowing (e.g., see Jubb, 1999) are generally couched in organizational or legal terminology. It is useful, however, to unpack these definitions from a psychological perspective. For this purpose, we draw on two existing definitions. Of these, probably the most influential is that provided by Near and Miceli (1985; see also King, 1997) which defines whistleblowing as "the disclosure by organization members (former or current) of illegal, immoral, or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action" (p. 4; see also Miceli & Near, 1985). In more legal terms, Jubb (1999) defines whistleblowing as:

> A deliberate non-obligatory act of disclosure, which gets onto public record and is made by a person who has or had privileged access to data or information of an organization, about non-trivial illegality or other wrongdoing whether actual, suspected or anticipated which implicates and is under the control of that organization, to an external entity having potential to rectify the wrongdoing. (p. 78)

There are six components of these definitions that are important for our present purposes. First, the disclosure must be made by someone from within the offending group; in other words, a whistleblower cannot be an outsider. Near and Miceli's (1985) definition

requires the whistleblower to be a member (or former member) of the organization, while Jubb (1999) implies insider status by arguing that a whistleblower needs to have privileged access to information. Accordingly, consistent with both definitions but broader in scope, we suggest that the disclosure must be of *ingroup* wrongdoing. Whistleblowing is thus psychologically distinct from other reporting behaviors, such as dobbing in, snitching, or tattle-tailing; it involves reporting illegal or immoral behavior on the part of the ingroup or its members, bringing with it the possibility of loyalty conflicts that set it apart from other forms of reporting. By way of illustration, a customer of a business who tells senior management that a shop manager is syphoning off goods is not a whistleblower. In contrast, an employee who tells senior management that the manager is syphoning off goods *is* a whistleblower. This distinction speaks to the important psychological feature of whistleblowing as an act of reporting on one's *own group*.

Second, from a psychological perspective, group membership is subjectively defined (Turner, 1982; Turner, Oakes, Haslam, & McGarty, 1994). Therefore, while whistleblowing concerns "ingroup wrongdoing", the definition of this ingroup is potentially variable (Millward & Haslam, 2013; Van Rijswijk, Haslam, & Ellemers, 2006). From this psychological perspective, Haslam (2004) suggests that organizations can be broadly defined as "any internally differentiated and purposeful social group that has a psychological impact on its members" (p. 2). For instance, Edward Snowden was never an employee of the NSA (he was employed by the subcontractor Booz Allen), but he was sufficiently involved with NSA operations (having worked there for four years) to consider it to be an ingroup. Note here that a whistleblower need not formally be a member or employee of an organization; it is enough that the group being reported on is a *psychological* ingroup—that is, a group with which the whistleblower has some degree of social identification.

Third, the psychological nature of group membership means that the group engaged in wrongdoing can also be variously construed—more exclusively or more inclusively (Turner, 1985). Thus the offending ingroup can be identified as a workgroup within a department of an organization or, increasingly inclusively as a department within an organization, an organization, or an entire industry or profession. In this context, some researchers distinguish between internal and external whistleblowing—reporting through channels that are internal versus external to an organization (see Dworkin & Baucus, 1998; Miceli & Near, 1984, 1985). However, the predictors of internal and external whistleblowing tend to overlap (Miceli & Near, 2005; Near & Miceli, 1987), and they are structurally equivalent. That is, while whistleblowers may use channels either internal or external to an organization, the channels are, by definition, external to the group that commits the wrongdoing. Whether whistleblowers need to go outside the organization is determined by how expansive the offending ingroup is understood to be. When the ingroup engaged in the wrongdoing is perceived to include only a workgroup or department within an organization, internal organizational channels may be used. However, when the whole organization is perceived to be complicit in the wrongdoing (e.g., through inaction) then whistleblowing requires the use of external channels.

Fourth, it follows that a further defining quality of whistleblowing is that the disclosure of the *psychological* ingroup's wrongdoing must be made to a reporting agency (a person or group who receives the disclosure) that is *psychologically external* (i.e., an *outgroup*) in relation to the offending ingroup. Thus, as Figure 1 suggests, the level of inclusiveness at which the offending ingroup is defined has implications for whom the wrongdoing is reported to. Whistleblowing requires the report be made to an outgroup (or its representative agent) at a higher level of inclusiveness than the ingroup which is implicated in the wrongdoing. This distinction is important because it differentiates whistleblowing from

intragroup dissent which is the expression of discontent made *within* the group about the group's behavior and aimed at seeking to change the group from within (Jetten & Hornsey, 2014; Packer, 2008, 2009). The point here is that defining groups in psychological terms—as flexible and contextually variable, for example, as suggested by self-categorization theory (Turner et al., 1994)—alerts us to the fact that both the offending ingroup and reporting agency are subjectively defined and dynamic.

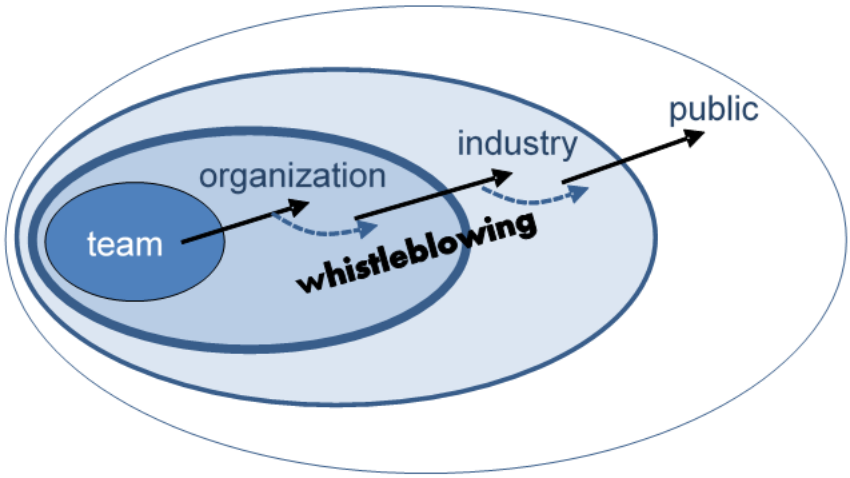

Figure 1. The hierarchical structure of whistleblowing. Whistleblowing escalates as the boundaries of the offending group are extended (e.g., due to inaction or collusion). The dotted lines indicate that when whistleblowing fails, the definition of the offending ingroup becomes more inclusive and hence whistleblowing involves reporting to an outgroup that is defined at a higher (more inclusive) level of abstraction.

Fifth, appreciation of this dynamism also allows us to anticipate the trajectory through which whistleblowing escalates. In particular, we can propose a *frustrated escalation hypothesis* whereby if a whistleblower discloses wrongdoing to a reporting agency at a higher level than the offending ingroup but fails to secure the desired outcome, then that outgroup (as represented by the reporting agency) will be recategorized as part of the offending ingroup and further appeals may be made to another outgroup at a higher level of inclusiveness. This trajectory is illustrated in Stewart's (1980) analysis of 51 whistleblowing cases which observed that when they first became aware of wrongdoing, whistleblowers typically reported their concerns to their immediate supervisors. Yet when their supervisors had failed to act appropriately on this report, they then escalated their concerns by reporting that transgression to people higher up the organizational chain. And if (and only if) those people were perceived as having failed to respond adequately, whistleblowers then reported the wrongdoing to relevant regulatory bodies or to the media.

A concrete example that illustrates the dynamic nature of the perceived boundaries of the offending ingroup and relevant reporting agency is provided by the case of Thomas Drake. Drake first reported his team's perceived wrongdoing to higher-level management within the NSA—an organization-level reporting agency. When nothing was done about his report, he perceived the NSA to be complicit in the wrongdoing and escalated his concerns to the Department of Defence and other representative government officials—industry-level reporting agencies. When, again, nothing was done he came to perceive the industry itself as complicit in the wrongdoing, and it was at this point that he blew the whistle to the media—a public-level reporting agency. Accordingly, we can observe that as the inclusiveness of the offending ingroup expanded to incorporate higher (more inclusive) levels of self-categorization, there was a corresponding expansion of the boundary of the reporting agency. In line with the principles of self-categorization theory (Turner, Hogg, Oakes, Reicher, &

Wetherell, 1987; Turner et al., 1994), these shifting boundaries can be seen to reflect a process of social categorization whereby the would-be whistleblower iteratively comes to define (and redefine) (1) the group that is responsible for, or implicated in, the wrongdoing, and (2) the wider group whose standards, rules, or values, have been violated and which—as represented through some regulatory agent—the whistleblower seeks to engage in order to enforce these standards.

Finally, sixth, whistleblowing is said to involve non-obligatory unsolicited disclosure (Jubb, 1999). This sets whistleblowing apart from informing and role-prescribed reporting due to the distinctive ethical and moral dilemma that it poses for the would-be whistleblower (Jubb, 1999). In fact, though, this distinction between role-prescribed and unsolicited reporting may not be so clear-cut, since even an individual whose role it is to identify or report wrongdoing may decide not to do so (thus, concealing or colluding in the wrongdoing), and hence can be seen to exercise a degree of choice (Haslam & Reicher, 2011). Moreover, even though reporting may be prescribed by their role, those who reveal ingroup wrongdoing can still face the same risks as whistleblowers, such as backlash from their ingroup and denunciation as traitors (Near & Miceli, 1987). Accordingly, we can say that whistleblowing typically involves voluntarily going against perceived *norms* of the ingroup to not report problematic behavior.

Putting these various elements together, we define whistleblowing as *a voluntary disclosure of ingroup wrongdoing (including omissions) to a reporting agency (person or group) outside of an offending ingroup with a view to that agency taking regulatory action to curtail the wrongdoing*. This definition has obvious points of contact with those offered by other researchers (e.g., Jubb, 1999; Near & Miceli, 1985) but, critically, it stresses the importance of shared (and non-shared) group memberships for the process.

The Social Identity Approach

From the foregoing discussion, it is apparent that people's group memberships are implicated in the motivation to engage in whistleblowing (see also Vadera, Aguilera, & Caza, 2009). Because it is concerned with the ways in which psychology and behavior are shaped by group membership, this observation suggests that one psychological framework that might be well positioned to inform understanding of the dynamics of whistleblowing is the social identity approach—comprised of social identity and self-categorization theories (after Tajfel & Turner, 1979; Turner, 1985).

Social identity theory asserts that in a range of social and organizational contexts people's sense of self—and hence their cognition and behavior—is determined as much (if not more) by their internalized group memberships (their *social identity* as 'we' and 'us'; Tajfel, 1978) as it is by their idiosyncratic qualities (their *personal identity* as "I" and "me"; Turner, 1982). While a great deal of social and organizational theory focuses on the psychology of individuals *as individuals* (reflecting their personal identities), social identity theorizing suggests that much is to be gained from appreciating the ways in which people's behavior is structured, at a higher level of self-abstraction, by their sense of shared social identity (Haslam, 2001). For example, research has shown that social identity is a major determinant of (a) effective communication (Morton, Wright, Peters, Reynolds, & Haslam, 2012), (b) workplace motivation (Ellemers, De Gilder, & Haslam, 2004), (c) organizational citizenship behavior (Van Dick, Grojean, Christ, & Wieseke, 2006), and (d) social support and stress (Van Dick & Haslam, 2012). Importantly, social identities can generally form on the basis of any attribute, but also values and opinions, that are believed to be shared with other people; they may thus be based not only on physical groups or broad collectives, but also on abstract ideas (e.g., being a democrat) or specific opinions (Bliuc, McGarty, Reynolds, & Muntele, 2007).

Self-categorization theory (Turner et al., 1987) argues that the level of abstraction at which the self is defined varies as a function of comparative and normative features of the prevailing social context (Turner et al., 1994). At higher levels of abstraction, the self is defined in terms of more inclusive social identities that define the self in terms of an ingroup membership shared with other members of this group, and that distinguish that ingroup from comparison outgroups (Turner, 1985; Turner et al., 1987). For example, in a context where it is fitting to do so (e.g., at work) a person, Jane, may self-categorize as a psychologist, and thereby see herself as relatively similar to other psychologists while also being different from sociologists (e.g., in terms of her interests and aspirations). Nevertheless, in a different context it may be more fitting for her to self-categorize as a social scientist (a more inclusive self-categorization) or as a social psychologist (a less inclusive self-categorization), and hence be attuned to different patterns of similarity and difference. Likewise, depending on the context, an employee of an organization may self-categorize at the level of their workgroup, department, organization, or profession, with each successive higher-level category subsuming the preceding ones (e.g., Ellemers et al., 2004; Millward & Haslam, 2013).

Self-categorization theory argues that when, and to the extent that, people self-categorize as members of a particular group they will tend to see themselves as interchangeable with other ingroup members, to internalize the group's norms and values, and to act in accord with its interests (Haslam, 2004; Jetten, Postmes, & McAuliffe, 2002; Onorato & Turner, 2004; Terry & Hogg, 1996; Turner, 1982; White, Hogg, & Terry, 2002;). At the same time, though, the self-categorization process is context sensitive (e.g., Haslam & Turner, 1992, 1995) and hence in different contexts people will understand the self through the lens of different group-based standards. For example, at work during the week Jane may define herself as a psychologist and align her behavior with norms of reasonableness and

objectivity; but on a Saturday she may define herself as the fan of a particular football team and, as such, display both passion and partisanship.

Dynamics of this form clearly have the capacity to create situations in which different groups' values and goals come into conflict (*normative conflict*; Crane & Platow, 2010; Packer, 2008). This might be seen in the workplace, for example, if the wrongdoing of one ingroup (e.g., one's workgroup) violates the values of another (e.g., the organization, which is a superordinate group in this context). More generally, we can see that conflict will tend to arise when the values of one ingroup require conformity or silence but those of another group require a person to speak out or whistleblow. Whether members adhere to the former or the latter is likely to depend both on how strongly they identify with each group and on the relative salience of self-categorization in terms of the two groups.

Additionally, there are motivational and normative pressures to have a positive image of one's group—that is, to maintain a positive social identity (Tajfel & Turner, 1987). In this regard, research has found that people who identify strongly with their group are particularly motivated to protect or improve its standing (Ellemers, 1993; Johnson & Fujita, 2012). Accordingly, when a group acts immorally, members may experience a threat to their social identity and attempt to reduce that threat by restoring the group's moral position (Van Der Toorn, Ellemers, & Doosje, 2015). On the one hand, group members may attempt to do this by defending or justifying the group's actions and hence conforming to its behavior and norms; on the other hand, they could seek to change group behavior or practices by speaking out, by dissenting, or by whistleblowing (Iyer, Jetten, & Haslam, 2012).

Speaking to this dilemma, Packer's (2008) normative conflict model details members' potential responses when their group's conduct is perceived to conflict with relevant norms and values. It argues that the severity of such perceived normative conflict and people's strength of identification with the offending ingroup are likely to influence whether they

conform, leave the group, or engage in intragroup change efforts (Crane & Platow, 2010; Packer, 2008, 2011; Packer & Chasteen, 2009). Specifically, when perceived normative conflict is low, people who identify strongly with the offending ingroup are more likely to conform (Packer, 2008, 2011). However, under circumstances of high normative conflict (e.g., serious wrongdoing), the group's behavior may be seen as dangerous, harmful, or immoral, in which case strongly identified group members are more likely to attempt to change group behavior through intragroup dissent (Packer, 2008, 2011). This is consistent with the view that those who identify more strongly with a group will be more likely to go to the effort of exerting voice (e.g., speaking up with ideas and suggestions) to improve the group's functioning (Morrison, Wheeler-Smith, & Kamdar, 2011) even if acting for the benefit of the group comes at personal cost (Ellemers & Jetten, 2013; Haslam, 2004; Haslam, Powell, & Turner, 2000; Haslam et al., 2006; Jetten, Branscombe, Spears, & McKimmie, 2003; Packer, 2008, 2011, 2014; Van Dick, Wagner, Stellmacher, & Christ, 2005; Van Knippenberg, 2000).

On the other hand, group members may lack the motivation to promote intragroup change. Here the normative conflict model suggests that people who perceive there to be high normative conflict and who identify weakly with the group will be more likely to disengage from the group or leave, rather than to attempt to change the group from within. Further, even those who identify strongly with the group and who perceive serious wrongdoing may sometimes engage in "uneasy conformity" (where they disagree but comply; Packer, 2008) instead of dissent—especially if they expect intragroup change efforts to be unsuccessful (Hirschman, 1970) or if they perceive themselves to have little capacity to influence other group members and change group functioning (Packer, 2008).

However, for ingroup members who lack either motivation or the power to bring about intragroup change there is another potential avenue to change group behavior. For,

when the actions of the ingroup violate the values of another salient social identity, both those who identify weakly with the offending ingroup and those who lack power within it can engage in whistleblowing for the benefit of the group whose values have been violated.

Nevertheless, to date the social identity literature has tended to overlook whistleblowing as a distinct response to ingroup wrongdoing and has limited itself to conformity, exit, and intragroup change efforts such as dissent. This represents an important omission, given the increasing incidence and social significance of whistleblowing that we noted earlier. Indeed, although a broad conceptualization of dissent may be understood as subsuming whistleblowing (Packer, 2011, 2014), we have highlighted clear definitional delineations between the two which suggests that whistleblowing may become particularly relevant when intragroup dissent is not an option or is ineffective. The most distinctive feature of whistleblowing is that it recruits agencies and powers from *outside* the group to change or regulate ingroup behavior. This distinction suggests that intragroup dissent and whistleblowing may have overlapping but different motivations and be inspired by different loyalties.

A Social Identity Model of Whistleblowing

In response to perceived ingroup wrongdoing, people can conform, remain silent, or disengage and exit from the group (Packer, 2008, 2011). They can also attempt to change ingroup behavior: either via internal means, using intragroup action such as dissent (Crane & Platow, 2010; Packer, 2008, 2011) and voice (Morrison, 2011, 2014; Morrison, See, & Pan, 2015; Morrison et al., 2011), or as we have argued, via external means, through intergroup action such as whistleblowing. We suggest that when and why people engage in whistleblowing will depend on perceived threat to aspects of their social identity, and perceptions of power in the given context.

Social Identification with an Offending Ingroup or Superordinate Group?

Social identity threat can be experienced at different levels. Because people are motivated to perceive themselves as moral beings and as belonging to moral groups (Ellemers & Van Den Bos, 2012; Leach, Ellemers, & Barreto, 2007), when an ingroup or its members commit a transgression, other group members can experience social identity threat due to their membership to that offending ingroup (Brambilla, Sacchi, Pagliaro, & Ellemers, 2013; Doosje, Branscombe, Spears, & Manstead, 1998; Van Der Toorn et al., 2015). People who identify more strongly with an offending ingroup will experience greater social identity threat when they perceive the ingroup wrongdoing to be in violation of the group's own core values (Crane & Platow, 2010).

However, group members can also experience social identity threat at the superordinate level. Such threat can arise when people identify strongly with (and are loyal and committed to) a superordinate group whose values have been violated by the offending ingroup's wrongdoing. What may constitute the relevant superordinate group that people identify with depends on the context. For example, in certain contexts, a profession or the public will constitute superordinate groups of which the offending ingroup (e.g., an organization) is a subcategory. In other contexts, an organization will be a superordinate group, such as when the offending ingroup is a workgroup within that organization. When ingroup wrongdoing violates a superordinate group's core values, those who identify strongly with the superordinate group are therefore likely to experience social identity threat at the superordinate level.

So, the social identity threat people experience will depend on the values that are violated and the strength of identification with the salient group from which those values are derived. To illustrate this more clearly, imagine that members of a scientist's research team (an offending ingroup) fabricate data to secure a high-status publication. This behavior

clearly violates the core values of the wider research community (the superordinate group). Accordingly, if this scientist identifies strongly with the wider research community and their membership of that community is salient, they will be likely to perceive a social identity threat at the superordinate level. Similarly, if a scientist identifies strongly with the research team and perceives that the data fabrication violates the team's own values (which may be derived from those of the wider research community), they will be likely to experience social identity threat at the level of the offending ingroup. Therefore, ingroup wrongdoing could undermine the values of a superordinate identity leading to social identity threat at the superordinate level or, alternatively, it could undermine the values of the offending ingroup itself leading to threat at the ingroup level.

These threats to one's social identity are likely to motivate individuals to change the offending ingroup's behavior. However, whether the person identifies strongly as an ingroup member or as a superordinate group member is likely to impact their motivation to engage in whistleblowing. As whistleblowing requires external disclosure of the ingroup's wrongdoing, it thus entails potential costs for the offending ingroup. And strongly identified members would likely seek to avoid these costs. Along these lines, De Graaf's (2010) interviews with twenty five whistleblowers indicated that, during their deliberation about whether they would report, an important factor (against whistleblowing) was the possibility of negative consequences for the offenders. Other studies have also shown whistleblowing is inhibited by friendship (Alleyne, Weekes-Marshall, & Arthur, 2013; Waytz et al., 2013), relationship closeness and loyalty (King, 1997; Waytz et al., 2013), and feelings of camaraderie with those engaged in the wrongdoing (Rennie & Crosby, 2002). Similarly, in a study on dissent, those who were strongly identified with the ingroup were less willing to express concerns about ingroup behavior to outgroup members than to other ingroup members (Packer, 2014). Furthermore, people who identify strongly with an ingroup may have greater tolerance for

ingroup wrongdoing (see also Packer, 2008) and thus be less likely than weakly identified group members to consider whistleblowing as a response. Hence stronger identification with the offending ingroup should reduce the likelihood of whistleblowing.[2]

In contrast, members who strongly identify with the superordinate group whose values are violated by the offending ingroup's wrongdoing should be more motivated to whistleblow. This claim is supported by evidence from research with accountants, which showed that the strength of identification with their profession (i.e., the superordinate identity) positively predicted whistleblowing intentions in response to a hypothetical vignette in which the accounting profession's code of conduct was violated (Taylor & Curtis, 2010; cf. Kaplan & Whitecotton, 2001).

In some circumstances one could argue that an ingroup wrongdoing does not violate the values of a superordinate group but, rather, it threatens other values (derived from another threatened social identity) that people project onto the superordinate group, with a view to having these values validated and upheld (Mummendey & Wenzel, 1999; Wenzel, 2004; Wenzel, Mummendey, & Waldzus, 2007; Wenzel, Waldzus, & Steffens, 2017). For example, an employee who identifies strongly with their organization may project values associated with their feminist identity onto the organization and look for it to uphold those feminist values (even if the organization has no particular commitment to them). Here, then, if the employee's workgroup displays sexist behaviors then that employee will perceive social identity threat and be more likely to be motivated to blow the whistle. This corresponds to the

[2] We note that although whistleblowing is likely to be reduced, overall, when people identify strongly with the offending ingroup, in specific instances whistleblowing could be a last-resort means for an individual trying to restore the ingroup's moral standing when its actions are perceived to be inconsistent with its own values and goals and/or as bringing harm to the group itself (e.g., Crane & Platow, 2010; see also schisms; Sani, 2008)

analysis we presented above where the perceived threat is to the values of a superordinate group (the organization in this example), albeit projected from the perspective of another threatened identity.

Finally, social identity threat can occur when the offending ingroup's behavior directly victimizes the ingroup member or another person or group with whom the ingroup member identifies (see also Curtis & Taylor, 2009). Hence group members can experience threat due to being directly victimized themselves or due to their membership in a victimized group, as is the case when people think they have been marginalized or discriminated against (Steele, Spencer, & Aronson, 2002). Consistent with these points, a survey of 3,232 employees from 118 Australian public sector organizations found that personal victimization was one of the strongest predictors of whistleblowing (Cassematis & Wortley, 2013; see also De Graaf, 2010). Similarly, another survey of employees randomly selected from 15 organizations, found that whistleblowers were more likely than inactive observers (those who had observed but not reported wrongdoing) to have been directly affected by the wrongdoing (Miceli & Near, 1985; see also Miceli & Near, 2005).

In sum, social identity theorizing thus leads us to expect that whether an individual acts to change ingroup wrongdoing depends on whether they experience a social identity threat at one of the aforementioned levels.[3] Action for change will be more likely when the threatened social identity is central to the individual's self-concept (e.g., McFerran, Aquino, & Duffy, 2010), as is the case for strong identifiers. Therefore, those who identify strongly

[3] It should be noted that although we have limited our analysis to social identities and group memberships, identity threat can also arise when the wrongdoing violates the core values of an individual's personal identity. However, in such cases, the personal values would arguably be projected onto the relevant superordinate group so that the individual believes they can or should recruit an outside agent, through whistleblowing, to uphold the values.

with a group whose values have been violated will perceive greater identity threat and thus be more likely to be motivated to take subsequent action in response.

Power to Effect Change Internally or Externally?

Once an individual is motivated to act against ingroup wrongdoing, how that action will look and whether it will involve whistleblowing will be determined by perceptions of power. As Alford (2001) notes, power is heavily implicated in the dynamics of whistleblowing. But what do we mean by power in this context? Turner (2005) explains that power is the capacity to impact, change, or influence things in the physical or social world. He divides social power into two sub-categories: power through *persuasion*; and power through *control* (both described below). In the context of responding to ingroup wrongdoing we refer to power as an individual's capacity to influence the ingroup's behavior.

To influence ingroup behavior there are two broad sources of power that a person can draw upon. The first is the capacity of group members to influence group behavior *internally*. Here group members may perceive themselves to have power through their ability to persuade the ingroup that its behavior is immoral or inappropriate and that changing the behavior is the right or moral thing to do (Turner, 2005). A person's power to do this can emerge from a range of factors including (a) their capacity to exert leadership by virtue of being someone who represents the group's defining goals and values (Haslam, Reicher, & Platow, 2011; Turner & Haslam, 2001); (b) their informal position or status within the group (Packer, 2008);[4] (c) their general communicative and social skills and capacity to form social

[4] We suggest, as Packer (2008) argues, that status may have a complex relationship with perceptions of power. High status members may have achieved their status by not challenging the status quo and thus they may perceive low power to effect change. Moreover, high-status members may be less likely than low status members to perceive a threat if they gained their status by conforming to the current group norms and/or they have an interest in maintaining the status quo. On the other

networks and alliances; as well as (d) the degree to which the group has open communication practices (e.g., Kassing, 2000). Alternatively, persuasion power may arise from a person's perceived ability to control the ingroup's behavior by wielding their legitimate authority (Turner, 2005). In both instances (persuasion and control), the perceived influence over ingroup behavior is direct—that is, the persuasion attempts require a person to communicate directly with ingroup members and control attempts require them to have direct authority over those ingroup members. We refer to this direct source of power, the power to internally influence group behavior, as *intragroup power*.

The second source of power is the capacity to influence the ingroup's behavior through the influence of an outside agency. We refer to this less direct source as *vicarious intergroup power*, this being the perceived ability to prevent or change the ingroup's wrongdoing behavior through the influence of a person or group external to the offending ingroup, enlisted via whistleblowing. With intergroup power, the capacity for influence resides less in the individual and more in the outside agency and its willingness and ability to prevent or stop the wrongdoing. Intergroup power therefore encompasses the perceived effectiveness of whistleblowing to stop, prevent, or minimize the wrongdoing and/or its consequences. We further propose that perceptions of intergroup power include the perceived costs of whistleblowing such as the potential for retaliation, social ostracism, income loss, imprisonment, and physical harm. This is because when perceived costs are high they are likely to contribute to a sense of powerlessness to effect change. Conversely, a person may feel empowered to the extent that there is protection from retaliation or from other forms of adverse repercussion. The proposed model therefore suggests that perceptions of intragroup

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hand, intragroup action by high status ingroup members may incur fewer costs than for lower status members making intragroup action more likely for the former.

and intergroup power will both play a role in determining whether an individual uses whistleblowing in response to ingroup wrongdoing.

Response to Ingroup Wrongdoing as an Outcome of Social Identification and Power to Effect Change

People's response to wrongdoing will be an outcome of the two dimensions of social identification and power.

Conformity and Silence. The above reasoning suggests that group members are most likely to conform and/or remain silent about problematic ingroup behavior when there is no (or low) social identity threat. On the other hand, they could conform or remain silent when they experience high identity threat (e.g., because they identify strongly with a superordinate group whose values have been violated) but feel powerless to influence the offending ingroup.

In line with these arguments research suggests that powerlessness, and the perception that organizational change is unlikely, serve to inhibit voice and therefore predict silence (Morrison, 2011, 2014; Morrison et al., 2015). Indeed, even when group members experience high identity threat, to the extent that they perceive themselves to be powerless to effect change they are more likely to remain silent. This may also be accompanied by some form of legitimization—see in techniques of neutralization (Sykes & Matza, 1957), moral disengagement (Moore, Detert, Treviño, Baker, & Mayer, 2012), rationalization and justification (Haslam, 2004; Van Der Toorn et al, 2015), or socialization (Near & Miceli, 2010)—which could act as a self-protective mechanism to reduce identity threat without needing to change or repair the wrongdoing behavior (Tarrant, Branscombe, Warner, & Weston, 2012; Van Der Toorn et al., 2015). Taken together, conformity and silence will be

more likely when there is low identity threat, as is the case when there is weak identification with the group whose values have been violated, or when there is low perceived power.

Exit. Another potential response to ingroup wrongdoing is for a group member to dis-identify from the offending ingroup and subsequently leave (Glasford, Pratto, & Dovidio, 2008). Such exit strategies are more likely to be considered by members who are weakly identified with the offending ingroup and who perceive high identity threat because of their strong identification with a superordinate group whose values have been violated. Exit is more likely to occur when the associated costs are low, but it is often the case that exit costs will be high, for example, because a person (a) has a strong sense of loyalty to the group, (b) is materially reliant on the group (e.g., for income), or (c) fears retaliation (Hirschman, 1970). Critically, perceived exit costs may also be high if a person is strongly identified with the group. High exit-cost situations can lead to silence and conformity (Hirschman, 1970; Packer, 2008) with rationalization again likely to be used to reduce the identity threat (Near & Miceli, 2010; Van Der Toorn et al., 2015).

Intragroup Action. When members of an offending ingroup, who are experiencing high social identity threat, perceive possibility for positive change to the status quo they will generally be motivated to act (Haslam, 2004), because they are keen to restore their sense of positive ingroup identity when there is an opportunity to do so (Ellemers, 1993; Johnson & Fujita, 2012; Van Der Toorn et al., 2015). Those who are strongly identified with the ingroup will tend to look first at changing the ingroup behavior via intragroup action, including intragroup dissent (Crane & Platow, 2010; Packer, 2008) or creating/joining an intragroup movement (Packer, 2008). Whether an individual takes intragroup action is likely to depend on their perceived capacity to directly influence other group members and group behavior (Packer, 2008)—that is, their perceived *intra*group power. Therefore, members who identify strongly with the offending ingroup, and who are experiencing social identity threat from the

ingroup's wrongdoing, will be more likely to take intragroup action to change the wrongdoing behavior (see Packer, 2008, 2011, 2014), particularly if they perceive themselves to have high intragroup power. This power to directly influence group behavior varies between individual group members (e.g., Hogg, 2011).

Intergroup action: Whistleblowing. In contrast to the above scenarios, if people identify weakly with an offending ingroup, or they identify strongly with it but perceive themselves to have low intragroup power (e.g., because they have had their dissenting voice rebuffed in the past), they may look to other sources of influence (Packer, 2008). Here vicarious *inter*group power, described above as the perceived ability to shape ingroup behavior via the influence of an external agency, can be invoked through whistleblowing. In this way, whistleblowing can be seen by highly identified ingroup members as another opportunity to improve the moral standing of the group, especially when the group is perceived as having steered away from its core goals or lost its moral compass (Near & Miceli, 1987). At the same time, though, highly identified members of the offending ingroup, for whom the ingroup is important, may be reluctant to engage in whistleblowing because of the potential costs it brings for the group. This suggests that members who are strongly (vs weakly) identified with the offending ingroup would be less likely to engage in whistleblowing. If, on the other hand, members identify strongly with a superordinate group whose values have been violated by the offending ingroup's wrongdoing, they will be more likely to resort to whistleblowing, particularly when they perceive high intergroup power. The model therefore proposes that whistleblowing will be more likely for people who identify strongly with a superordinate group whose values have been violated and who

identify weakly with the offending ingroup, particularly when they perceive themselves to have low intragroup power but high vicarious intergroup power.[5]

When perceptions of intragroup *and* intergroup power are both low (such as when there is total perceived powerlessness with respect to changing the ingroup behavior), group members faced with identity threat would be more likely to consider exit when exit costs are low, or silence and conformity when exit costs are high.

In sum, this model (which is represented schematically in Figure 2) suggests that when ingroup wrongdoing violates the values of another social identity, group members will be likely to experience an identity threat to the extent that they identify with that other group. To ameliorate this threat, if exit costs are low (e.g., when they are weakly identified with the group) members would be likely to dis-identify and exit from the offending ingroup. Yet when exit costs are high, group members would be more likely to engage in some form of legitimization strategy and to conform or remain silent. However, to the extent that people perceive it to be possible to change the group from within, intragroup action (e.g., in the form of expressing intragroup dissent) will be more likely, particularly for those who are strongly identified with the offending ingroup. Alternatively, when people who identify strongly with the superordinate group perceive the ability to change the group 'from without', by enlisting an outside regulatory agent, then the likelihood of them engaging in whistleblowing should be increased.

[5] Note that individuals can use both intragroup and intergroup action in attempting to change ingroup behavior. For example, Crane and Platow (2010) found that some people expressed concern within the group (intragroup dissent) as well as reporting the violation to the experimenter (whistleblowing).

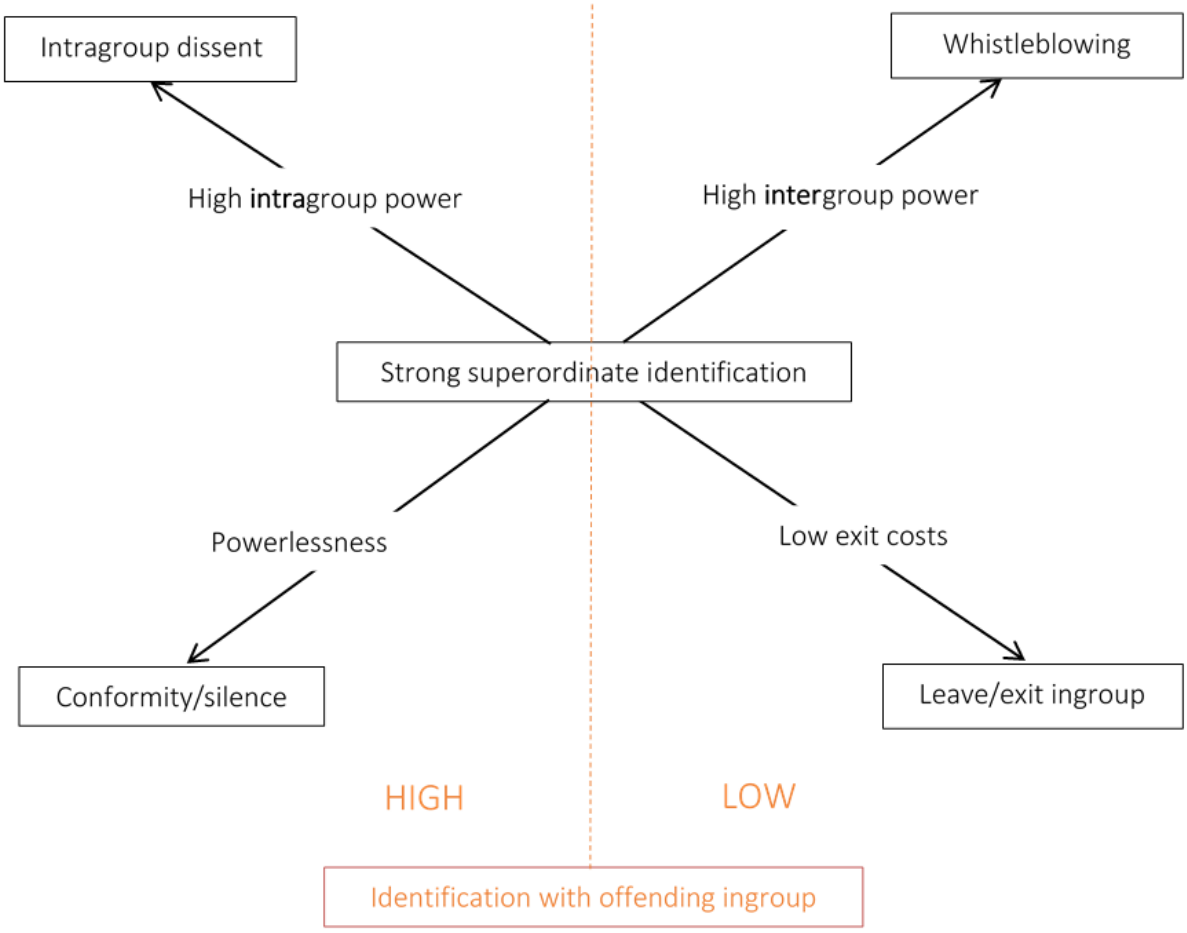

Figure 2. Schematic representation of the social identity model of whistleblowing. The likelihood of whistleblowing will be maximized when the individual who is strongly identified with the superordinate group perceives themselves to have low intragroup power but high vicarious intergroup power and is weakly identified with the offending ingroup.

Evidence for the Social Identity Model of Whistleblowing

Consistent with the psychological definition of whistleblowing, the above model points to the importance of two fundamental issues for whistleblowing: social identity and

power. Regarding identity, the definition of whistleblowing implicates two groups: the group (or its members) who commit the wrongdoing, and the group represented by the agency to which the wrongdoing is reported. The whistleblower is notionally a member of both, and certainly both memberships have the capacity to form part of their identity. The second point implied in the definition is that a whistleblower recruits an agent external to the offending ingroup because of the agent's position of power to regulate or influence the ingroup. The act thus becomes an instrument of vicarious power for the whistleblower. In summarising the evidence for the model, it is therefore on these issues of identity and power that we focus.

As hypothesized by our model, being identified strongly with the offending ingroup should increase the likelihood of intragroup dissent but reduce the likelihood of whistleblowing because of the associated costs for the group, notwithstanding the fact that whistleblowing provides an alternative source of influence when intragroup change efforts are frustrated. On the other hand, being strongly identified with the superordinate group whose values have been violated will increase the likelihood of whistleblowing. Furthermore, once motivated by identity threat to engage in whistleblowing, if intragroup power is perceived to be low the likelihood of whistleblowing will be increased, and when perceived intergroup power is high, the likelihood of whistleblowing will also be increased.

Evidence for the role of social identities in whistleblowing. Central to the act of whistleblowing is a question of loyalty and commitment. Commitment to a group is an aspect of identification with it (Leach et al., 2008), and people can have a sense of loyalty and commitment toward a group engaged in wrongdoing due to being (or feeling) close to it and its members. Such identification and closeness with the wrongdoers should reduce the likelihood of whistleblowing because (a) the offending group's norms increase social pressure on ingroup members to conform and thereby to become complicit in wrongdoing (Miceli & Near, 1992) and (b) feelings of loyalty and closeness with the offender(s) are likely

to increase concerns about the negative consequences that whistleblowing will have for them (De Graaf, 2010).

Consistent with this point, as we noted above, relational closeness and loyalty to the wrongdoer have both been shown to reduce whistleblowing intentions (King, 1997; Waytz et al., 2013). For example, in a survey of accounting staff from organizations in Barbados, whistleblowing intentions were lower when wrongdoers were friends with the would-be whistleblower than when they were not (Alleyne et al., 2013). Likewise, focus-group discussions with medical students revealed that camaraderie was a key reason for them not blowing the whistle on their colleagues (Rennie & Crosby, 2002). Furthermore, survey data indicates that smaller work groups tend to be associated with less whistleblowing (Miceli & Near, 1988) presumably because these are associated with greater psychological closeness—and hence loyalty—to the offending ingroup (Haslam, 2004; Van Knippenberg & Van Schie, 2000). All this suggests that the likelihood of whistleblowing is reduced when people have a sense of commitment and loyalty to the person or group engaged in wrongdoing.

However, people can be loyal and committed to other groups, too, such as their organization, their profession, or indeed their society as a whole. For example, consider the situation where the offending ingroup is a workteam within an organization. The organization here would be a superordinate group to which the potential whistleblower belongs, and loyalty to or identification with it would thus *increase* the likelihood of whistleblowing when its values have been violated. In line with this logic, a survey of Directors of Internal Auditing in North America revealed that those with higher organizational commitment were more likely to have engaged in (internal and external) whistleblowing about observed wrongdoing, whereas those with lower organizational commitment were more likely to have remained silent (Miceli, Near, & Schwenk, 1991). Likewise, a vignette study involving questionable practices by a supervisor found that participants with higher organizational

commitment (including identification and loyalty) had greater (internal) whistleblowing intentions than those with lower organizational commitment (Chen & Lai, 2014). We note that these studies did not explicitly indicate whether the wrongdoing violated organizational values. However, in another vignette study in which reporting was said to be of benefit to the organization, organizational commitment positively predicted internal whistleblowing intentions among a sample of public accountants (Taylor & Curtis, 2016). While not all studies have found a significant relationship between organizational commitment and whistleblowing (e.g., see Mesmer-Magnus & Viswesvaran, 2005; Sims & Keenan, 1998)[6], the evidence nevertheless points to social identities (and strength of identification) as a strong motivating factor.

There is also indirect empirical evidence for the role of organizational commitment and identification in a person's decision to blow the whistle. This includes studies that have found whistleblowers (a) to be higher performers (Brewer & Selden, 1998; Mesmer-Magnus & Viswesvaran, 2005; Miceli & Near, 1988; Miceli et al., 1991), (b) to have higher levels of job commitment (Brewer & Selden, 1998), and (c) to have higher job satisfaction (Brewer & Selden, 1998; Mesmer-Magnus & Viswesvaran, 2005). Whistleblowers have also been found to be more educated and to hold higher-level positions and status within the organization (Mesmer-Magnus & Viswesvaran, 2005; Miceli & Near, 1988). Although these findings have not always been consistent (see Miceli & Near, 2002; Rothschild & Miethe, 1999; Sims &

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[6] One explanation for empirical inconsistencies is that organizational commitment is predictive of whistleblowing only when the wrongdoing violates organizational values or is harmful to the organization. Organizational commitment may be positively predictive of whistleblowing internally within the organization but negatively predictive of whistleblowing externally (e.g., Alleyne, 2016; see also Andrade, 2015). Note that Mesmer-Magnus and Viswesvaran's (2005) study was a meta-analysis which they combined internal and external whistleblowing into one measure.

Keenan, 1998), they again speak to the potential role of organizational (and professional) loyalty and commitment in whistleblowing. Along these lines, Miceli and Near (1992) have argued that organization members with more service years and higher positions are likely to have greater personal investment in the organization and may therefore care more about what happens in it. We elaborate further and—in line with evidence that group identification is predicted by a person's ingroup status or hierarchical rank (e.g., Kennedy & Anderson, 2017; Kreiner & Ashforth, 2004; Willer, 2009)—suggest that those who are high performers, committed and satisfied, and who hold higher position and status within an organization are more likely to see the organization as an important aspect of their lives and identity. They are therefore more likely to identify strongly with it and, accordingly, more likely to blow the whistle on wrongdoing that violates organizational values.

Moreover, as suggested above, people can identify with and be committed and loyal to an even more inclusive superordinate group, such as their profession or the wider society and its citizens. In this vein, Henik (2008) maintained that conflicting loyalties or values can emanate from allegiances to "extra-organizational" principles—that is, principles derived from sources external to an organization—such as a professional code or the public welfare (see also Andrade, 2015). This was confirmed when she (2015) interviewed 50 whistleblowers and inactive observers and found that strong allegiance or loyalty to extra-organizational principles was one important motivating factor in whistleblowing. Consistent with this observation, a vignette study using practicing auditors from an international accounting firm found that a person's identification with their profession positively predicted their whistleblowing intentions (Taylor & Curtis, 2010; cf. Kaplan & Whitecotton, 2001).

Others have also argued that whistleblowing may be the act of someone who perceives the public interest as overriding other interests (Andrade, 2015; Culiberg & Mihelic, 2016; Nader, Petkas, & Blackwell, 1972). Indeed, Edward Snowden has said that his

motive in whistleblowing was “to inform the public as to that which is done in their name and that which is done against them” (Greenwald, MacAskill, & Poitras, 2013). Furthermore, after analysing survey data from U.S. federal civil service employees, Brewer and Selden (1998) concluded (a) that compared to inactive observers, whistleblowers had a higher regard for the public interest and (b) that when the public interest was threatened whistleblowing was more likely. Critically, a large survey of over 42,000 full-time federal employees revealed that the motivation to serve the public interest was positively associated with whistleblowing intentions (Cho & Song, 2015). These findings therefore suggest that when an offending ingroup’s wrongdoing violates a profession’s values or threatens the public interest, group members are likely to blow the whistle to the extent that they identify with that profession or wider public.

As can be seen from the preceding review, past research on whistleblowing has examined how personal attributes such as level of education and status, cognitive processes such as psychological or relationship closeness, and organizational structure such as workgroup size and organizational position can influence whistleblowing. In line with suggestions that group memberships and group processes are important here (e.g., Miceli & Near, 1992; Near & Miceli, 1987), we contend that a social identity analysis provides a meaningful way of integrating and making sense of these various findings. More specifically, extant research provides reasonably consistent evidence for our hypothesis that whistleblowing will be more likely when loyalty and commitment—and hence identification—are to a superordinate group (e.g., the organization, profession, or public) rather than to an offending ingroup. Specifically, it appears that being strongly identified with a social identity whose values are violated by an offending ingroup’s wrongdoing generally increases the likelihood of whistleblowing, whereas being strongly identified with the wrongdoer(s) generally reduces the likelihood of whistleblowing.

Evidence for the role of Intragroup and Intergroup Power in Whistleblowing

The other critical issue detailed in our model is the would-be whistleblower's perceived power. Here we proposed that group members motivated to act against ingroup wrongdoing can draw power from two sources: through *direct* influence on the ingroup (*intra*group power); and through *a reporting agency's* influence on the ingroup (vicarious *inter*group power). Perceived intragroup power is likely to impact on whether group members engage in intragroup change efforts. With low intragroup power, group members will be likely to consider other avenues for change, such as whistleblowing, and here perceptions of intergroup power become important. The following analysis of the literature presents initial support for this component of our model.

Intragroup Power in Whistleblowing

Existing literature suggests that whistleblowers tend to be people who feel responsible for changing ingroup wrongdoing but who lack intragroup power to do so. Moreover, because they lack the power or authority to change organizational behavior themselves they must necessarily rely on other forms of power (Callahan & Dworkin, 1994; Dozier & Miceli, 1985; Jackson et al., 2010; Miceli & Near, 1992; Near & Miceli, 1985, 1987). Supporting this view, interviews with 11 nurses who had become whistleblowers indicated that they had taken this course because they were unable to gain support for their concerns within the organization (Jackson et al., 2010)—in other words because they lacked intragroup power to effect change through intragroup action. Similarly, another interview study with 50 employees found that whistleblowing to external agencies was more likely to occur when reported wrongdoing within the organization was not handled effectively (Henik, 2015). Furthermore, survey data from a large sample of 8,500 employees revealed that whistleblowers who used reporting channels external to the organization were *less* likely to be in supervisory positions (Miceli & Near, 1984). As argued elsewhere, those who would

blow the whistle external to the organization (such as to the media) are likely to be those who lack intra-organizational power, such as that coming from holding supervisory responsibility (Callahan & Dworkin, 1994). We argue that people who perceive adequate intragroup power to stop the wrongdoing will perceive less need to seek power from elsewhere and thus be less likely to engage in whistleblowing, choosing instead to use the path of intragroup dissent identified by Packer (2008, 2011).

Indeed, there is evidence to suggest that perceived intragroup power increases the likelihood of intragroup action. For instance, in a survey of 232 employees (intragroup) dissent was more likely for those who perceived there to be greater freedom of speech within the workplace (Kassing, 2000). That is, those who perceived themselves to have high intragroup power (an ability to voice their concerns internally) were more likely to express dissent. Accordingly, it appears that having power within a group can make a person more likely to engage in intragroup change efforts through dissent and voice (Morrison, 2011; Packer, 2008, 2011) and thereby reduces the perceived need for whistleblowing.

Intergroup Power in Whistleblowing.

When they have low intragroup power, however, whistleblowing becomes a viable option for those who seek to change the ingroup behavior, at least to the extent that it is perceived likely to be effective (Miceli & Near, 1984, 1992; Near & Miceli, 1987; Park & Blenkinsopp, 2009; Watts & Buckley, 2015; Wortley, Cassematis, & Donkin, 2008). Consistent with this point, a survey of employees in the Australian public sector found that they reported being more likely to whistleblow when they believed that the wrongdoing would be corrected (Wortley et al., 2008). Similarly, a vignette study in which the accounting profession's code of conduct was violated showed that accounting auditors had greater whistleblowing intentions when they trusted that their reporting would be acted upon and investigated (Curtis & Taylor, 2009; see also Taylor & Curtis, 2016). In another vignette

study where participants were told about a lecturer who revealed exam items to students prior to an exam, the perceived efficacy of whistleblowing was one of the strongest predictors of people's willingness to countenance this strategy (Jones, Spraakman, & Sanchez-Rodriguez, 2014). Other similar findings also speak to the importance of whistleblowing efficacy among IT project managers (Keil, Tiwana, Sainsbury, & Sneha, 2010), employees of U.S. organizations (Kaptein, 2011), Korean police officers (Park & Blenkinsopp, 2009), and internal auditors and management accountants (Seifert, Sweeney, Joireman, & Thornton, 2010). Unsurprisingly, then, these studies all show that whistleblowing is more likely to occur when it is perceived as being likely to effect desired forms of change.

However, against this, the perceived costs of whistleblowing can reduce the likelihood of people pursuing this strategy. Indicative of this point, fear of retaliation was cited as an important reason against whistleblowing in both an interview study with former whistleblowers (De Graaf, 2010) and a survey of accountants (Alleyne et al., 2013). Likewise, perceived personal costs have been found to negatively predict whistleblowing intentions (Ayers & Kaplan, 2005; see also Cho & Song, 2015). Conversely, a survey of employees found that whistleblowing was more likely to be considered to the extent that respondents thought whistleblowers would be supported or protected from retaliation (Wortley et al., 2008).

Although some literature suggests that people may become whistleblowers despite the potential costs and retaliation for doing so (e.g., Brown et al., 2008; Miceli & Near, 1985; Near & Miceli, 1987), we argue that the costs associated with whistleblowing are likely to factor into perceptions of intergroup power. This is because when whistleblowing is perceived to be costly, people will be less willing to take the associated risks, making whistleblowing seem like a less viable option. They would therefore perceive themselves as having less power to effect change directly. In contrast, when whistleblowing costs are low or

when there is protection from retaliation, a would-be whistleblower may feel emboldened to report wrongdoing because whistleblowing protections are, in effect, ways of empowering them. In these ways, the potential costs associated with whistleblowing, and the likelihood of protection from them, should contribute to perceptions of intergroup power and, in turn, the likelihood of whistleblowing.

To sum up, these various strands of previous research generally provide support for our hypothesis that two forms of power impact on decisions to whistleblow. Group members who believe they have no power within their group, little authority or social influence vis-à-vis their ingroup peers—that is, those who perceive low intragroup power—are more likely to blow the whistle on their group's wrongful behavior to an outside agency. They also appear particularly inclined to do so when they consider the outside agency as having the power and, we may add, the political will, to change the ingroup's behavior.

Conclusion and Implications

The foregoing review provides preliminary evidence to support the social identity model of whistleblowing and, in particular, for the important roles of social identity and power that it specifies. Broadly, the model proposes that ingroup wrongdoing can motivate group members to act, to the extent that they perceive an identity threat. This is likely to be influenced by self-categorization processes that determine how strongly a person identifies with the offending ingroup and with the threatened social identity. Once motivated, the model proposes that the specific action group members take is likely to be determined by perceptions of power. Whereas group members who perceive high intragroup power will be more likely to engage in intragroup change efforts such as intragroup dissent, the likelihood of whistleblowing will be greatest among those who perceive low intragroup but high intergroup power.

With this model, we make two distinct but interrelated novel contributions. First, we remedy the failure of previous theoretical work to explain how group memberships and associated social identities are implicated in whistleblowing behavior. To address this gap in the literature, we integrated existing empirical insights within a coherent model that extends upon previous work in the field (notably by Packer; e.g., 2008) and simultaneously develops a structured agenda for future empirical (and theoretical) research. Second, we thereby remedy the social identity literature's neglect of whistleblowing as a distinct response option for people faced with ingroup wrongdoing and consequent social identity threat. The resulting model therefore makes contributions to two fields of inquiry: first, it extends psychological theory in the social identity tradition, and, second, it advances our understanding of whistleblowing. Yet while the social identity model of whistleblowing integrates many existing findings, it is clearly the case that further research is needed to test its specific propositions. We therefore hope the model will excite research interest on this important phenomenon and position whistleblowing more prominently on the research agenda within psychology.

Apart from its value for future research, the model we have outline also has promise for applied settings. Clearly all groups and organizations that want to maintain ethical standards would want to foster commitment to their values and to develop internal routes for their members to speak out against any wrongdoing they see. This will prevent whistleblowers from seeking external avenues that can be costly for the group or organization. However, particularly in groups where wrongdoing has been allowed to fester, loyalties, norms, and power structures can easily become corrupted, so that intervention and regulation can only occur from outside. In such cases, whistleblowing can be pivotal to progress. To make full use of it, superordinate groups (such as professional associations) would be well advised to promote superordinate (professional) identification and enact

policies and practices that make their whistleblowing mechanisms effective and empowering for their members. This may limit the harm that whistleblowing causes by allowing problems to be dealt with before they reach the attention of the public and thereby damage the reputation of the organization, profession, or the entire industry.

The proposed model has some notable limitations. Specifically, our model addresses whistleblowing that is driven primarily by moral concern and a desire to change what is perceived by the whistleblower as an immoral, illegitimate, or illegal behavior. The model may not apply, for example, to whistleblowing driven primarily by malicious intent, such as when a person is motivated to cause harm. Furthermore, our analysis is largely a result of theorizing and research from predominantly Western cultures. The model should therefore be applied cautiously in other contexts.

In conclusion, it is clear from previous research that the social identity approach (after Tajfel & Turner, 1979) provides a powerful framework for exploring and explaining how group members respond to perceived ingroup wrongdoing. Indeed, it was for this reason that it was used by Packer (2008) as a basis for the normative conflict model to explain when and why strongly identified group members engage in intragroup dissent with a view to changing problematic ingroup behavior. However, extending the logic of this model, we have argued that group members can also enlist the power and influence of a superordinate group (or its representative agents) to bring about change, as is seen when people engage in whistleblowing. To explain this particular form of behavior we have therefore set out a social identity model of whistleblowing with the intention that it stand alongside and complement the normative conflict model, but in the process, also provide a more comprehensive picture of potential responses to ingroup wrongdoing.

CHAPTER 2: Testing the Social Identity Model of Whistleblowing

> "Often the best source of information about waste, fraud, and abuse in government is an existing government employee committed to public integrity and willing to speak out."
>
> ― Barack Obama's 2008 election campaign (as cited in Allen, 2008)

The above quote illustrates two critical points about the reporting of wrongdoing. First, acts of whistleblowing often serve the purposes of detecting and correcting organisational malpractice (Brown et al., 2008; Dyck et al., 2010; Lavena, 2014; Miceli & Near, 1988; Miethe, 1999; Proost et al., 2013). Second, the quote indicates that the employee who blows the whistle may do so as a result of their commitment to extra-organisational principles derived from a superordinate group in whose interests they may be acting, such as one's country or the public.

We argue that group memberships, and thus social identities, are a motivating factor in the whistleblowing decision (see also, Vadera et al., 2009). While group memberships have been acknowledged as likely to play an important role, the discussion has previously focussed on the offending ingroup's pressure for group members to remain silent and conform (e.g., Greenberger, Miceli, & Cohen, 1987), or on group norms and ethical codes of conduct specifically related to whistleblowing (e.g., Near & Miceli, 1987). We present a different perspective by suggesting that commitment to, or identification with, a *psychological* superordinate group can motivate people to speak out against wrongdoing that violates the superordinate group's values, even when norms or codes of conduct say nothing about whistleblowing per se.

Based on earlier definitions couched in organisational and legal concepts (e.g., Near & Miceli, 1985; Jubb, 1999), whistleblowing is *psychologically* defined as a voluntary

disclosure of ingroup wrongdoing to a reporting agency (person or group), external to the offending ingroup, for it to take regulatory action. This definition implicates *two* groups involved in the whistleblowing process, where a member of the offending ingroup reports the wrongdoing to a member of an external group, and highlights the difference between whistleblowing and intragroup dissent. Intragroup dissent refers to criticism of group behaviour expressed *within* the group (Jetten & Hornsey, 2014; Packer, 2007, 2009); whereas whistleblowing requires the concerned group member to speak out *externally*.

However, group memberships can be subjectively defined at varying levels, so that while belonging to an ingroup at one level, a person can also feel belonging to a superordinate, more broadly defined group (Turner, 1982; Turner et al., 1994; Millward & Haslam, 2013; Van Rijswijk et al., 2006). For example, an individual may belong to a workgroup which is a subgroup of the organisation in which it resides; the organisation a subgroup of the professional association; and the professional association a subgroup of the society. From a psychological perspective, members of the workgroup belong to each successively superordinate group and can define themselves at any one of these levels. To the extent that members of an offending subgroup identify with a superordinate group whose values have been violated, they will be motivated to engage in whistleblowing. Whereas most research on whistleblowing has been in the organisational literature and focused mostly on its structural antecedents (Waytz et al., 2013), our perspective sheds light on an important psychological mechanism. The aim of this paper is to address the empirical question of whether identification with a psychological superordinate group impacts the whistleblowing decision.

The Social Identity Approach

According to social identity theory (Tajfel & Turner, 1979), people's sense of self is derived from their group memberships—that is, their social identities—as much as it is

derived from their individual or personal identity (Tajfel, 1978; Turner, 1982). And social identity has been found, among many other things, to impact workplace motivation (Ellemers et al. 2004) and organisational citizenship behaviour (Van Dick et al., 2006).

Moreover, people's sense of self depends on the process of self-categorisation, perceiving themselves, in-context, as belonging to a particular social category (self-categorisation theory; Turner et al., 1987). People can self-categorise at varying levels of abstraction, with lower level categories being subsumed by higher level ones (Haslam, 2004; Turner, 1985; Turner et al., 1987). For example, within a certain context a person may self-categorise at the level of their workgroup; in another context, at the level of their organisation, a superordinate category subsuming their workgroup category. When a person self-categorises at the level of a particular group they are more likely to think and act in line with that group's norms, values, and morals (Haslam, 2004; Onorato & Turner, 2004; Terry & Hogg, 1996; White et al., 2002).

An individual who observes ingroup wrongdoing and self-categorises at the level of the offending ingroup will be likely to adhere to the group's norms and either conform to the wrongdoing behaviour or remain silent about it (see also Miceli & Near, 1992). But the normative conflict model (Packer, 2007) suggests that people who identify strongly with their group may, when they believe the group is not acting true to its goals and values, engage in dissent and speak out (Crane & Platow, 2010; Packer, 2007, 2011; Packer & Chasteen, 2009; see also Morrison et al., 2011). Strong identifiers tend to care about their group and desire to maintain a positive image of it (Ellemers, 1993; Johnson & Fujita, 2012; Van Der Toorn et al., 2015). They are more likely, compared to those who identify less strongly, to engage in intragroup change efforts (e.g., intragroup dissent) for the group's benefit (Haslam, 2004; Haslam et al., 2000; Haslam et al., 2006; Packer, 2007, 2011, 2014; Van Dick et al., 2005;

Van Knippenberg, 2000). However, these models of normative conflict have not distinctly addressed an alternative course of action, namely whistleblowing.

Social Identities and Whistleblowing

Whistleblowing recruits an outside agent to regulate the ingroup's behaviour, thereby exposing it to an external audience, which can result in costly sanctions or reputational harm. This, in turn, could damage close relations and contravene loyalties that the whistleblower may have with the offending ingroup members. Studies using interviews, focus groups, and experimental vignette designs have found that a sense of loyalty, camaraderie, and relationship closeness with those engaged in wrongdoing reduces the likelihood of whistleblowing (Alleyne et al., 2013; De Graaf, 2010; King, 1997; Rennie & Crosby, 2002; Waytz et al., 2013). This suggests that whistleblowing may be perceived as an act of disloyalty, where a group member who blows the whistle may be seen as betraying their ingroup.

However, with multiple group memberships, people may be committed to multiple social identities, creating situations where different groups' values come into conflict (Crane & Platow, 2010; Packer, 2007). For example, the wrongdoing of a workgroup may violate the values of the organisation, which represents a self-category at a higher level of abstraction, a superordinate identity. In such a situation, an individual who is loyal and strongly identified with the workgroup, or has close relational ties with the offending group members, will be less likely to engage in whistleblowing because of the associated costs for the workgroup (even though they may engage in intragroup dissent, as discussed above). Alternatively, an individual who self-categorises at the superordinate level, identifying strongly with the organisation, will be more likely to engage in whistleblowing for the benefit of the organisation. In line with this argument, a survey of Internal Auditors found that when observers of wrongdoing had higher organisational commitment—a facet of identification

(Leach et al., 2008)—whistleblowing was more likely (Miceli, Near, & Schwenk, 1991; see also, Chen & Lai, 2014; Taylor & Curtis, 2016; cf. Mesmer-Magnus & Viswesvaran, 2005; Sims & Keenan, 1998). Therefore, an individual reporting their workgroup's wrongdoing, though perhaps seen as disloyal to the workgroup, may be acting out of commitment to and identification with the overarching organisation, a superordinate category, for *its* benefit and out of concern for *its* values.

Further, people can self-categorise and identify with even more inclusive and abstract superordinate social identities, such as their profession or the wider public. For instance, when a workgroup's wrongdoing violates the profession's values, a workgroup member who identifies strongly with their profession will be more motivated to engage in whistleblowing than one who is less identified. Indeed, a vignette study with employees of an international accounting firm found that identification with the accounting profession was positively correlated with whistleblowing intentions when the profession's code of conduct was violated (Taylor & Curtis, 2010; cf. Kaplan & Whitecotton, 2001). Crucially, however, from a social identity perspective, the underlying psychological principle applies more generally to *any* superordinate group that provides a relevant normative framework. Furthermore, social identities can also be based on other more abstract and less concrete attributes, such as values and abstract ideas shared between people (Bliuc, McGarty, Reynolds, & Muntele, 2007). For example, people may identify with science as a superordinate social identity that encapsulates subgroups such as specific scientific subfields (e.g., psychology).

In sum, close relational ties or strong identification with an offending ingroup will reduce the likelihood of whistleblowing; but increase intragroup dissent because high identifiers care about the group and may consider its wrongdoing behaviour as deviating from its own goals and values (Packer, 2007, 2011, 2014). However, when the wrongdoing violates the values of a superordinate identity, strong identification with it will increase the

likelihood of whistleblowing. But what is the mechanism through which identification with the superordinate group might motivate an individual to blow the whistle?

Perceived Responsibility

When an individual self-categorises as a member of a superordinate group, and identifies with it, they internalise the goals and values that define the group (Terry & Hogg, 1996; Turner et al., 1987). These defining goals and values become the individual's own, committing them to act accordingly. Hence by identifying with a superordinate group, people tend to be committed to its values and the notions of justice these define; even when they are counter to their own personal or other (lower-level) ingroup's material interests (Wenzel, 2002, 2004). Identification with a superordinate group may therefore imply a sense of responsibility for individual members to uphold its goals or values, and speak out when other members or sub-groups disregard or violate them.

Kaplan and Whitecotton (2001) argued that professional commitment may increase whistleblowing intentions through one's perceived responsibility to report the wrongdoing (see also, Brewer & Selden, 1998). Likewise, Ayers and Kaplan (2005) suggested that such perceived responsibility would be related to employees' organisational commitment. There is some empirical support for these arguments. For example, although the indirect effect was not formally tested, a vignette study found a significant relationship between professional identification and a measure of moral intensity that included perceived responsibility to report the wrongdoing, which in turn predicted whistleblowing intentions (Taylor & Curtis, 2010; see also Taylor & Curtis, 2016). Critically, while the groups these different authors point to vary (profession, organisation), it is their functional role as a superordinate group in the given context that, for individuals identifying with it, implies a responsibility to speak out against a wrongdoing committed by their (lower-level) ingroup.

We propose that people who identify strongly with a group are more likely to internalise the group's values (Haslam, 2004; Onorato & Turner, 2004; Terry & Hogg, 1996; White et al., 2002) and to feel responsible for upholding them when they are violated. Because people can have multiple group memberships, however, there can be conflict between what they feel responsible to do. On the one hand, close relational ties to those engaged in the wrongdoing and strength of identification with them will reduce whistleblowing intentions, even if it increases intragroup dissent. On the other hand, we predict that people's strength of identification with a superordinate social category whose values have been violated will positively predict whistleblowing intentions, mediated via a higher perceived responsibility to correct the wrongdoing behaviour.

Study 1.1

In Study 1.1 we manipulated identification with the superordinate group to test whether this would increase ratings for whistleblowing intentions in a hypothetical vignette, through perceived responsibility. We also manipulated relational closeness with the wrongdoers to see if it would reduce whistleblowing intentions, and increase intragroup dissent.

Method

Participants. Without information about what effect size to expect, we aimed for a minimum of 30 participants per condition. A total of 133 university students participated (October 8th to November 17th, 2015). Based on a priori exclusion criteria, we excluded those who failed the attention check items (n = 7), leaving a total of 126 participants (93 females) aged from 17 to 64 years (M = 23.13, SD = 7.50), who were mostly Caucasian/White (70.6%) or Asian /Middle Easter (22.2%).

Materials. The Qualtrics study is (filename, ESM 1), the SPSS data, syntax, and output files (and an excel data file) are available on the Open Science Framework (OSF; https://osf.io/8bzte/?view_only=acada984b1944f76bc45719bdbeb3295).

Procedure and Measures. After providing demographic details, participants were randomly allocated to either a high or low science identification condition (adapted from Haslam, Oakes, Reynolds, & Turner, 1999). Those in the high identification condition were asked to briefly explain "the ways in which scientific research benefits the public interest" and "why the goals, values and ideals of the research community are commendable". Participants in the low identification condition were asked to briefly explain "the ways in which scientific research fails the 'public interest' test" and "why the goals, values and ideals of scientific research are overrated". Unless otherwise stated, all subsequent items were measured with 7 point Likert scales (1 = *strongly disagree*/*not at all*, to 7 = *strongly agree/very much*).

Science identification. Following the manipulation we measured identification with science using 4 items adapted from Leach et al. (2008; e.g., "I feel committed to the ideals of scientific research"; Cronbach's α = .85). The order of presentation of these items was randomised.

Participants were then presented with a hypothetical vignette (adapted from Miceli et al., 1991) in which they were to imagine taking part in a study where an experimenter asks them to 'fudge' the data by giving answers that will confirm the research team's hypothesis.

Closeness with offenders. Participants were randomly allocated to either read a version of the vignette where they were friends with the experimenter or not. This manipulation served as a proxy for identification and loyalty with the offending group, because ingroup ties (an aspect of social identification) regard emotional closeness between people, including the sharing of strong ties and a common bond (Cameron, 2004).

Participants were asked to "briefly describe what happened" in the vignette and what they would do in the situation and why, in open answer format—these were for exploratory purposes and were not analysed.

Outcome variables. We measured intentions for whistleblowing (2 items; "I report the experimenter and/or the research team to the behavioural research committee", and "I report the experimenter and/or the research team to the university or some other authority"; $r = .84$) and dissent (2 items; "I speak up and try convincing the experimenter and/or the research team to stop what they are doing", and "I express my concerns to the experimenter and/or the research team"; $r = .60$).

To give participants a full range of options and mitigate potential demand effects, we had 1 item each for remaining silent, conforming, and leaving without completing the experiment—we had no hypotheses for these and they are not discussed further. Among this block of items we used one attention check asking participants to select "option 2". The presentation order of these items was randomised across participants. Next, participants rank ordered the above actions based on what they would do first. We included this ranking for exploratory purposes and, as it was unrelated to the hypotheses, we do not describe the results here.

Mediator. Participants then rated their perceived responsibility to act (2 items; "how responsible you would feel to act to correct the behaviour of the experimenter and/or the research team?", and "how morally compelled would you feel to act to correct the behaviour of the experimenter and/or the research team?"; $r = .70$).

We also measured other (exploratory) constructs that are not reported in analyses: self-relevance and seriousness of the wrongdoing; perceptions of power (including effectiveness of dissent and influence); whistleblowing efficacy and costs; overlap between values of the research team and research community; emotions; and moral disengagement.

Analyses. To test our hypotheses, we ran a 2 (science identification: high, low) by 2 (relational closeness: friend, not friend) between-subjects factorial ANOVA for whistleblowing and then dissent. The confidence intervals (90% for *F* tests and 95% for Cohen's *d* and correlations) for all studies in this paper were calculated using methods and software from Lakens (2013, 2014a), Smithson (2001), Wuensch (2017), and how2stats (n.d.).[7]

Results

Table 1 presents the Pearson Correlation Coefficients. Science identification ratings were significantly positively correlated with ratings for both whistleblowing and perceived responsibility; and responsibility was significantly positively correlated with whistleblowing.

We used Welch's independent samples *t*-test (as recommended by Delacre, Lakens, & Leys, 2017) to investigate the effect of our superordinate identity manipulation on science identification. Those in the high identification condition (M = 5.00, SD = 1.24) had higher ratings for science identification than those in the low identification condition (M = 4.46, SD = 1.22), $t(123.14) = 2.45$, $p = .016$, $d = 0.44$, $CI_{95\%} = [0.08, 0.79]$.

Table 2 presents the descriptive statistics for the ANOVAs. For whistleblowing intentions, the interaction between science identification condition and relationship closeness was not significant, $F(1, 122) = 3.33$, $p = .070$, $\eta_p^2 = .027$, $CI_{90\%} = [.000, .089]$. Contrary to our hypothesis, the main effect of science identification condition was not significant $F(1, 122) = 2.81$, $p = .096$, $\eta_p^2 = .023$, $CI_{90\%} = [.000, .082]$; although participants in the high identification condition (M = 4.36, SD = 1.81) had higher mean whistleblowing ratings than those in the low identification condition (M = 3.78, SD = 1.97). As hypothesised, the main

[7] F tests are one-sided tests and the 90% (not 95%) confidence interval corresponds to the F test statistic (see Steiger, 2004).

effect of closeness was significant, $F(1, 122) = 7.25$, $p = .008$, $\eta_p^2 = .056$, $CI_{90\%} = [.008, .133]$ such that when the wrongdoers were friends with participants ($M = 3.61$, $SD = 1.85$) mean ratings for whistleblowing were significantly lower than when they were not friends ($M = 4.52$, $SD = 1.87$).

For dissent, the interaction between science identification and closeness was not significant, $F(1, 122) = 0.45$, $p = .505$, $\eta_p^2 = .004$, $CI_{90\%} = [.000, .041]$. Although those in the high identification condition ($M = 4.52$, $SD = 1.74$) had higher mean ratings for dissent than those in the low identification condition ($M = 4.11$, $SD = 1.76$), the main effect of science identification was not significant, $F(1, 122) = 2.46$, $p = .120$, $\eta_p^2 = .020$, $CI_{90\%} = [.000, .077]$. However, in line with our hypothesis, the main effect of closeness was significant, $F(1, 122) = 24.31$, $p < .001$, $\eta_p^2 = .166$, $CI_{90\%} = [.076, .263]$ such that participants had higher ratings for dissent when they were friends with the wrongdoers ($M = 4.99$, $SD = 1.62$) than when they were not ($M = 3.60$, $SD = 1.61$).

For perceived responsibility, the interaction and the main effect of closeness were not significant ($ps \geq .38$). The main effect of science identification on responsibility was significant, $F(1, 122) = 6.41$, $p = .013$, $\eta_p^2 = .05$, $CI_{90\%} = [.006, .124]$ such that those in the high identification condition ($M = 5.18$, $SD = 1.34$) had higher mean ratings for responsibility than those in the low identification condition ($M = 4.54$, $SD = 1.49$).

Table 1

Pearson Correlation Coefficients [and 95% Confidence Intervals] (Study 1.1).

	1.	2.	3.	4.
1. Science ID	*4.72(1.26)*	.31***	.20*	.36***
	1.75 - 7	[.14, .46]	[.02, .36]	[.20, .50]
2. WB	*4.06(1.91)*		.31***	.59***
	1 - 7		[.14, .46]	[.46, .69]
3. Dissent	*4.31(1.75)*			.52***
	1 - 7			[.38, .64]
4. Responsibility	*4.85(1.45)*			
	1 - 7			

Note. N = 126. First column = *Mean(Standard Deviation) and* **minimum - maximum**.

Science ID = Science identification. WB = Whistleblowing intentions.

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

Table 2

Means (Standard Deviations) by Superordinate and Ingroup Identification (Study 1.1).

Dependent Variable	Science Identification Condition			
	High		Low	
	Closeness with Wrongdoers			
	Friends *n* = 30	Not friends *n* = 31	Friends *n* = 34	Not friends *n* = 31
Whistleblowing	4.22 (1.69)	4.50 (1.94)	3.07 (1.84)	4.55 (1.84)
Dissent	5.33 (1.40)	3.73 (1.68)	4.69 (1.77)	3.47 (1.54)
Responsibility	5.37 (1.31)	5.00 (1.36)	4.50 (1.69)	4.58 (1.27)

Indirect Effect. We used bootstrapping techniques to test the hypothesised indirect effect (Preacher & Hayes, 2008). We ran Model 4 of the PROCESS macro by Hayes (2013) with 5000 bootstrap replications, centred variables, and 95% confidence intervals. The predictor was science identification condition, the mediator was responsibility, and the outcome was whistleblowing intentions.

Consistent with our hypothesis, there was a significant positive indirect effect of science identification condition on whistleblowing intentions through responsibility (B = 0.246, $CI_{95\%}$ = [0.064, 0.465], SE = 0.101). Participants in the high identification condition had higher ratings on perceived responsibility, which in turn predicted higher ratings for whistleblowing. See Figure 3 for direct effects from the model.[8]

Although not hypothesised, we also found a significant and positive indirect effect of the superordinate identification manipulation on dissent, through perceived responsibility, (B = 0.202, $CI_{95\%}$ = [0.049, 0.406], SE = 0.09).

[8] For silence, the main effects and interaction were nonsignificant. Silence was negatively significantly related to whistleblowing (r = -.44), dissent (r = -.44), and responsibility (r = -.31), all ps < .001; but not to the superordinate identification scale (r = -.04, p = .638). And the indirect effect of superordinate identification manipulation on silence, through responsibility, was significant, (B = -0.141, $CI_{95\%}$ = [-0.311, -0.038], SE = 0.067).

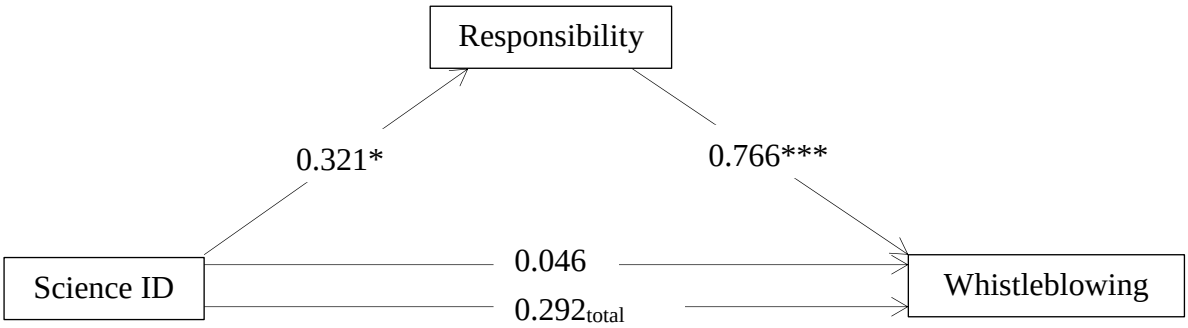

Figure 3. The direct effects of the model where science identification condition (Science ID) was entered as the predictor variable, responsibility as the mediator, and whistleblowing intentions as the outcome. The total effect of science identification condition on whistleblowing is also presented.

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

Discussion

In line with past research examining closeness and loyalty to those engaged in the wrongdoing (Alleyne et al., 2013; De Graaf, 2010; King, 1997; Rennie & Crosby, 2002; Waytz et al., 2013) the findings from Study 1.1 showed that relationship closeness with the wrongdoers decreased whistleblowing intentions. In contrast, and in line with past theorising and research (Crane & Platow, 2010; Packer, 2007, 2011, 2014), relationship closeness increased intentions for dissent. These findings support our proposition that whistleblowing is a response distinct from intragroup dissent (expressed directly to the wrongdoers), likely to have different and opposing antecedents, and should thus be investigated in its own right.

Contrary to our hypothesis, the science identification manipulation did not have a significant effect on whistleblowing intentions but, in line with our prediction, the indirect effect through perceived responsibility was significant. Nevertheless, the measured science identification scale was significantly positively related to whistleblowing. The higher people rated being identified with science the higher were their whistleblowing intentions. It is possible that this relationship is spurious. However, it is also possible that although the manipulation had a significant effect on the science identification scale it was too weak (as indicated by the effect size and its confidence interval; $d = 0.44$, $CI_{95\%} = [0.08, 0.79]$) to have an effect on whistleblowing in a morally charged vignette. Furthermore, the significant indirect effect of superordinate identification on dissent, through perceived responsibility, suggests that people who identify with the superordinate group may feel responsible to act against the wrongdoing that violates its values, and not only be more likely to engage in whistleblowing but also dissent. Taken together, Study 1.1 provides some support for our proposition that identification with a superordinate group whose values have been violated predicts whistleblowing intentions through the perceived responsibility to act.

Study 1.2

In Study 1.2 we aimed to test our hypotheses among a sample of academic researchers. In this study, we measured identification with the superordinate group and identification with the offending ingroup.

Method

Participants. We recruited participants through emails sent to university departments asking them to forward it to their research staff, and research associations asking them to forward it to their mailing lists. We could not assess how many participants we were likely to recruit and so we allowed data collection to continue (from 15th June, 2016) until no more responses were forthcoming (to 27th August, 2016). After excluding those who failed the attention check (n = 4) and who indicated that they were not employed as academic researchers (n = 23)[9], based on a priori exclusion criteria, we were left with a total of 229 participants (155 female and 2 unspecified), median birth year 1979 (approximate age 37 years) ranging from 1993 (23 years) to 1935 (81 years). Participants resided in Europe (40.6%), Australia/New Zealand (22.7%), United States (14.8%), United Kingdom (14.0%), and other (7.9%). The majority of the sample were in the sciences and social sciences (84.3%) with the remainder being Law, Business, Education, and Humanities (13.1%), or non-specified (16.6%).

[9] Including the non-academically employed participants in the analyses did not change results.

Materials. The Qualtrics study is in the ESM 1. The SPSS data, syntax, and output files (and an excel data file) are available on the OSF (https://osf.io/yf2ne/?view_only=be1729b1219247f78d385de89090f5f5).

Procedure and Measures. Unless otherwise stated, all items were measured with 7 point Likert scales (1 = *not at all*, to 7 = *very much*).

Predictor variables. After providing demographic details, participants responded to 2 pictorial items (adapted from Aron, Aron, & Smollan, 1992) measuring identification with the wider research community by selecting which best represented "how closely you identify with the wider research community" and "how closely you feel your goals, values and ideals are aligned with the goals, values and ideals of the wider research community" (r = .47).[10] To measure strength of identification with the offending ingroup we adapted the same 2 items, replacing "wider research community" with "your university" (r = .72).

Participants then read a hypothetical vignette in which their university wanted to "game" the research ranking system by paying "for half of the salary of a highly productive and impactful professor employed at another university [… so that] her future publications and the funding she attracts […] would be included in" the university's ranking score without her actually spending any time there.

***Mediator*.** We next measured perceived responsibility to act (2 items; "I would feel responsible to act to stop the university's conduct from happening" and "I would feel morally compelled to act to prevent the university's conduct from happening"; r = .83).

[10] Looked at separately, the identification item was significantly related to whistleblowing (r = .14, p = .035, $CI_{95\%}$ = .01, .26) but the values item was not (r = .01, p = .831, $CI_{95\%}$ = -.12, .14). No other inferential results were changed.

Outcome variables. The outcome variable was whistleblowing intentions (2 items; "I report the university's conduct to the national authority responsible for maintaining the integrity of the research community" and "I report the university's conduct to an authority outside of the university"; $r = .77$). One item asked whether participants would "make the university's conduct public" but this is qualitatively different from disclosing to a formal reporting agency and thus we do not report results for this item—including it into the whistleblowing composite score did not change the inferential results. We also measured intentions for dissent (2 items; "I speak up and try convincing the other staff in the university to stand against such conduct" and "I explicitly express my concerns within the university about the university's conduct"; $r = .79$).

To give participants the full range of options and mitigate potential demand effects, we had 1 item each for remaining silent, conforming, and leaving the university—we had no a priori hypotheses for these and do not report on them further. Among this block of items we had an attention check asking participants to select option 2. The order of presentation of these items was randomised.

For exploratory purposes we also measured whistleblowing efficacy, perceived power to influence the university internally, and perceived seriousness. Before being thanked and debriefed, participants were able to provide comments and feedback.

Results

Table 3 presents the Pearson Correlation Coefficients. Contrary to our hypotheses, identification with the university was not significantly related to whistleblowing or to dissent; and identification with the wider research community was not significantly related to whistleblowing or perceived responsibility. However, the upper limit of the confidence intervals allows a positive relationship between identification with the wider research

community and whistleblowing intentions (as well as with perceived responsibility) to an interesting degree (i.e., $r = .2$).[11]

Perceived responsibility was significantly and positively correlated with whistleblowing intentions. However, the PROCESS model did not detect a significant indirect effect of identification with the wider research community on whistleblowing intentions through responsibility, $B = 0.065$, $CI_{95\%} = [-0.061, 0.187]$, $SE = 0.064$.[12]

[11] Four outliers were detected, *post hoc*, using the outlier labelling rule (Hoaglin, Iglewicz, & Tukey, 1986). Removal resulted in significant relationship of research community identification with whistleblowing ($r = .17$, $p = .009$, $CI_{95\%} = [.04, .30]$) and responsibility ($r = .14$, $p = .033$, $CI_{95\%} = [.01, .27]$). The indirect effect through perceived responsibility was significant, $B = 0.118$, $CI_{95\%} = [0.008, 0.238]$, $SE = 0.059$. Because outlier removal was considered post hoc, interpretation of these results should be cautionary.

[12] Silence was negatively significantly related to whistleblowing ($r = -.44$), dissent ($r = -.67$), and responsibility ($r = -.70$), all $ps < .001$; but not with identification with the research community ($r = -.02$), or identification with the university ($r = -.09$), $ps > .16$. Moreover, the indirect effect of identification with the research community on silence, through responsibility, was not significant, ($B = -0.084$, $CI_{95\%} = [-0.253, 0.087]$, $SE = 0.087$).

Table 3

Pearson Correlation Coefficients [and 95% Confidence Intervals] (Study 1.2).

	1.	2.	3.	4.	5.
1. ID research	*4.02(1.27)*	.09	.05	.37***	.08
	1 - 7	[-.04, .22]	[-.08, .18]	[.25, .47]	[-.05, .21]
2. WB	*2.78(1.52)*		.50***	-.05	.59***
	1 - 7		[.39, .59]	[-.18, .08]	[50, .67]
3. Dissent	*4.80(1.71)*			.04	.71***
	1 - 7			[-.09, .17]	[.64, .77]
4. ID university	*4.02(1.27)*				.03
	1 - 7				-.10, .16
5. Responsibility	*3.83(1.65)*				
	1 - 7				

Note: N = 229. First column = *Mean(Standard Deviation) and* **minimum - maximum**. WB = Whistleblowing intentions. ID research = Identification with the wider research community. ID university = Identification with the university

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

Discussion

Study 1.2 failed to replicate the main findings from Study 1.1, regarding the positive relationship between superordinate identification and whistleblowing. One reason for this could be that participants did not perceive the hypothetical behaviour of the university to be violating the values of the wider research community. In fact, some participants used the comments section to indicate as much. For example, one person said, "I think the scenario of paying a professor at another university to boost publications and ranking is common. I did not see much of an ethical issue". Nevertheless, the upper limit of the confidence interval for the correlation between identification with the wider research community and whistleblowing intentions indicates that a relationship of an interesting size cannot be ruled out.

Perceived responsibility was significantly related to whistleblowing intentions, which replicates and extends past research that has thus far been focused on accountants and business students (e.g., Alleyne et al., 2016; Ayers & Kaplan, 2005; Brink et al., 2015; Dalton & Radtke, 2013; Gao, Greenberg, & Wong-On-Wing, 2015; Kaplan & Whitecotton, 2001; Latan, Ringle, & Jabbour, 2016; MacGregor & Stuebs, 2014; Taylor & Curtis, 2010, 2013, 2016). This shows that the role of perceived responsibility is generalisable to academically employed researchers.

Study 1.3

In Study 1.3 we used a larger and more representative sample of MTurk participants to test the hypothesised relationship between superordinate identification and whistleblowing intentions. We predicted that those in the high science identification condition would have higher whistleblowing intentions than those in the low science identification and control conditions; and that science identification will have an indirect effect on whistleblowing intentions through perceived responsibility. The study hypotheses and protocols were pre-

registered on the OSF (https://osf.io/rbqw5/?view_only=4b64de9ec2b54a5ba97c2d917e6bb1b5).

Method

Participants. Using G-Power 3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007), we calculated $N = 417$ for 90% power to detect a small-medium effect size ($f = 0.175$). We used recruited participants from MTurk (7th to 12th November 7th, 2016). Based on a priori and pre-registered exclusion criteria, we excluded participants who missed the comprehension ($n = 12$) and attention checks ($n = 3$). No participants failed the manipulation task and no outliers were detected using the outlier labelling rule (Hoaglin & Iglewicz, 1987; Hoaglin et al., 1986). This left a total of 425 participants (204 females, 2 other), median age 34 years (ranging from 18 to 79 years). Participants were mostly North American (65.9%), European (16.2%), and Asian (11.8%).

Materials. The Qualtrics study is available in the ESM 1. The SPSS data, syntax, and output files (and an excel data file) are available on the OSF (https://osf.io/tjsve/?view_only=21c788cf914a4cedb303ac45b2bf0c99).

Procedure and Measures. After providing demographic details, participants were randomly allocated to 1 of 3 conditions in which we manipulated identification with science (adapted from Haslam et al., 1999). Participants in the control condition continued directly on to the next section of the study. Those in the high identification condition were asked to list 3 things each that: are important about scientific research; they like about scientific research; and they have in common with scientific researchers. Those in the low identification condition were asked to list 3 things each that: are problematic about scientific research; they dislike about scientific research; and differentiate them from scientific researchers.

Next, participants were presented with a vignette asking them to imagine being part of a research team in which some members were fudging data, telling their participants what

answers to give. After the vignette participants were given a multiple choice comprehension check. Unless otherwise stated, all the following items were measured with 7 point Likert scales (1 = *strongly disagree*/*not at all*, to 7 = *strongly agree/very much*).

Mediator. We measure perceived responsibility with 4 items (e.g., "I would feel responsible to take action against what the other members of my research team are doing"; Cronbach's α = .89). The presentation order of these items was randomised.

***Outcome variable*.** Then participants gave ratings for whistleblowing intentions (2 items; "I would report my research team's actions to the relevant authority" and "I would report my research team's actions to the University"; r = .84).

To give participants a full range of options and mitigate potential demand effects, we had participants rate how likely they would be to dissent, remain silent, conform, and leaving the research team—there were no hypotheses for these variables. This block of items had an attention check item asking participants to select option 2. The order of presentation of these items was randomised.

***Science identification scale*.** We next measured science identification (5 items; e.g., "I feel committed to the ideals of scientific research"; Cronbach's α = .90). The order of presentation of these items was randomised.

For exploratory purposes we also measured perceived whistleblowing efficacy and costs, and perceived power to influence the research group. These are not discussed further.

Results

A one-way between-subjects ANOVA detected a significant effect of condition on science identification ratings, $F(2, 422) = 13.46$, $p < .001$. Levene's test of homogeneity of variances was significant (p = .007) so we used Games-Howell post hoc tests to investigate group differences. Those in the high identification condition (M = 5.82, SD = 1.05, n = 142) had significantly higher science identification ratings than those in the low identification

condition (M = 5.07, SD = 1.32, n = 139; p < .001, d = 0.63, $CI_{95\%}$ = [0.39, 0.87]) but not compared to those in the control condition (M = 5.56, SD = 1.29, n = 144; p = .142, d = 0.22, $CI_{95\%}$ = [-0.01, 0.46]). Those in the low identification condition had significantly lower ratings than those in the control condition (p = .006, d = 0.37, $CI_{95\%}$ = [0.14, 0.61]).

For our pre-registered hypotheses we used a one-way ANOVA on whistleblowing intentions and perceived responsibility, with condition as the predictor. Contrary to our hypotheses, our manipulation did not have a significant effect on whistleblowing ratings, F(2, 422) = 0.56, p = .572; or on perceived responsibility, F(2, 422) = 0.77, p = .462. Table 4 presents the descriptive statistics.

Non-pre-registered analyses showed that ratings on the science identification scale were significantly and positively related to whistleblowing intentions (r = .26, p < .001, $CI_{95\%}$ = [.17, .34]), dissent (r = .25, p < .001, $CI_{95\%}$ = [.16, .34]), and perceived responsibility (r = .26, p < .001, $CI_{95\%}$ = [.17, .35]). Perceived responsibility was in turn significantly and positively related to whistleblowing (r = .62, p < .001, $CI_{95\%}$ = [.56, .68]) and dissent (r = .48, p < .001, $CI_{95\%}$ = [.40, .55]).[13] Although not hypothesised, there was a significant effect of the manipulation on dissent F(2, 422) = 3.86, p = .022. Levene's test of homogeneity of variances was significant (p = .003) so we used Games-Howell post hoc tests to investigate group differences. Those in the high identification condition (M = 6.31, SD = 0.97, n = 142) had significantly higher ratings for dissent than those in the low identification condition (M = 5.95, SD = 1.17, n = 139; p = .015, d = 0.34, $CI_{95\%}$ = [0.1, 0.57]) but not compared to those in

[13] There was a nonsignificant effect of the manipulation on silence (p = .117). Silence was negatively significantly related to whistleblowing (r = -.53), dissent (r = -.43), responsibility (r = -.62), and to the science identification scale (r = -.18), all ps < .001. The indirect relationship between ratings on the science identification scale and silence, through responsibility, was significant, (B = -0.171, $CI_{95\%}$ = [-0.276, -0.090], SE = 0.048).

the control condition (M = 6.05, SD = 1.23, n = 144; p = .103, d = 0.24, $CI_{95\%}$ = [0.00, 0.47]). Those in the low identification condition did not significantly differ in dissent ratings from those in the control condition (p = .797, d = 0.08, $CI_{95\%}$ = [0.15, 0.32]).

Indirect effect. Using the same PROCESS model as in Study 1.1, we found a significant indirect effect of science identification ratings on whistleblowing intentions through responsibility, B = 0.171, $CI_{95\%}$ = [0.087, 0.273], SE = 0.048. The higher participants rated being identified with science the more they felt responsibility to act, which in turn predicted higher whistleblowing intentions. See Figure 4 for direct effects from the model. The indirect effect of science identification ratings on dissent intentions, through responsibility, were also significant, B = 0.104, $CI_{95\%}$ = [0.05, 0.173], SE = 0.032.[14]

[14] We replicated Study 1.3 using multiple mini-vignettes (see ESM 2 from the OSF link for Study 1.3). Using sequential interim analysis (Lakens, 2014b), on the first look we found a nonsignificant effect of the manipulation and terminated data collection.

Table 4

Means (Standard Deviations) by Superordinate Identification Condition (Study 1.3)

	Science Identification Condition		
	High (*n* = 142)	Low (*n* = 139)	Control (*n* = 144)
Whistleblowing	5.78 (1.39)	5.68 (1.39)	5.61 (1.43)
Responsibility	6.22 (1.04)	6.07 (1.01)	6.14 (1.07)

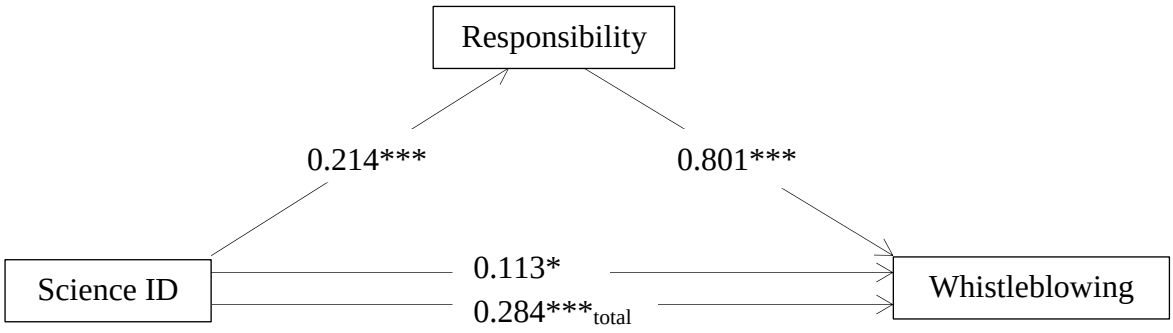

Figure 4. The direct effects in the model with the science identification scale (Science ID) entered as the independent variable, responsibility as the mediator, and whistleblowing intentions as the outcome. The total effect of science identification scale on whistleblowing is also presented.

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

Discussion

Study 1.3 failed to support a causal relationship between superordinate identification and whistleblowing intentions. However, identification with science (the superordinate group) was positively correlated with whistleblowing intentions, and there was a significant indirect effect through perceived responsibility. Similar to our discussion for Study 1.1, it is possible that this correlational relationship is spurious. But it is also possible that the priming manipulation was too weak to have a noticeable effect on whistleblowing intentions in a morally charged vignette. Nevertheless, this study extends the correlational findings from Study 1.1 to a larger and more representative sample of the general population. Furthermore, the superordinate identification manipulation had a significant effect on dissent which was also significantly and positively related to ratings on the science identification scale. The indirect relationship between science identification and dissent, through perceived responsibility, suggests that the more strongly people identify with the superordinate identity whose values have been violated the more they will feel responsible to act and the action they take may also take the form of intragroup dissent. That is, superordinate identification is related not only to whistleblowing but also to dissent, as these are both different ways of acting against perceived wrongdoing. This also replicates the finding from Study 1.1.

Study 1.4

In Study 1.4 we tested our hypotheses using self-reports of past whistleblowing behaviour from an MTurk sample of participants who had observed wrongdoing within their workgroup or organisation. We predicted that strength of identification with the wrongdoer(s) would negatively predict whether participants had engaged in whistleblowing, whereas identification with the profession (the superordinate group) would positively predict whistleblowing through perceived responsibility.

Method

Participants. We recruited MTurk participants (16th June, 2016) with a quota of approximately 200, based on available resources at the time. After removal of those who failed the attention check items (n = 8), a total of 228 participants (109 females, 1 other) were included in the analyses.[15] Median birth year was 1985 (approximately 21 years) ranging from 1998 (18 years) to 1943 (73 years). Participants mostly resided in the U.S. (78.1%) and Asia (7.9%).

Materials. The Qualtrics study is available in the ESM 1. The SPSS data, syntax, and output files (and an excel data file) are available on the OSF (https://osf.io/emsq8/?view_only=c19c02f311474191ab08bf9a0b142cfc).

Procedure and Measures. We used 1 filter-item to include only participants who had become aware of non-trivial wrongdoing by members of their unit, team, or organisation within the past 3 months. Participants then completed demographic details and were instructed to complete the survey with respect to the most serious wrongdoing in the past 3 months for which they had direct evidence.

Unless otherwise stated, all items were measured with 7 point Likert scales (1 = *not at all/strongly disagree*, to 7 = *very much/strongly agree*).

Outcome variable. We measured whether participants had engaged in whistleblowing with a yes/no response option ("I reported the wrongdoing to the relevant authority which may include supervisor/management or the complaints department of my organisation or a professional association etc.").

[15] Originally, participants who completed the survey in under 3 minutes (n = 26) were intended for exclusion but inferences were not changed so we kept them in.

To give a full range of options and mitigate potential demand effects, participants also indicated whether they had spoken to the media, expressed dissent (directly to the wrongdoers and within the workgroup that committed the wrongdoing), conformed, remained silent, and/or left the group. The order of presentation of these items was randomised. We next provided an open response option for "other comments". We do not discuss these items any further, except dissent.

Predictor variables. We measured how much participants identified with their profession (the superordinate group; "At the time, I identified with my profession"). Moreover, participants were told that "the wrongdoing may have conflicted with the values of a wider group, organisation or community" and we measured how much they identified with this group using 5 items (e.g., "At the time, I identified with a wider group/organisation/community whose values the wrongdoing conflicted"; Cronbach's α = .88). However, we later recognised that these items were susceptible to demand effects. We therefore exclude them from analyses and focus our report on the professional identification measure which we deemed less susceptible to demand effects. Our inferences remain unchanged whether we use the single professional identification item, the 5-item superordinate identification scale, or the 6-item combined scale (professional identification combined with the superordinate identification items; Cronbach's α = .88). We also measured how much participants identified with "the unit/group that committed the wrongdoing" with an adapted version of the 5 items in the superordinate identification scale described above (Cronbach's α = .90).

Mediating variable. We then measured perceived responsibility (2 items; e.g., "I felt responsible to act to stop the activity from happening"; r = .77).

For exploratory purposes, we measured perceived seriousness, perceptions of power to influence the wrongdoer(s) directly, and whistleblowing efficacy and costs. These will not

be discussed further. Among this block of items we also had one attention check asking participants to select option 2.

Results

Table 5 presents the Point Biserial Correlations. Contrary to our hypothesis, ratings for identification with the wrongdoer(s) were not significantly negatively related to whistleblowing. Consistent with our hypothesis, however, professional identification was significantly and positively related to whether participants had engaged in whistleblowing. The more strongly identified they were with their profession the more likely they were to have reported the observed wrongdoing. Likewise, perceived responsibility was significantly and positively related to whistleblowing and to professional identification. Furthermore, dissent expressed directly to the wrongdoers and dissent expressed within the workgroup that committed the wrongdoing were significantly related to whistleblowing (*r*s = .23 and .42, respectively) and perceived responsibility (*r*s = .46 and .53, respectively). Professional identification was significantly and positively related to dissent directly to the wrongdoers (*r* = .15, *p* = .020) and dissent within the workgroup (*r* = .16, *p* = .016).[16]

Indirect effect. Using the same PROCESS model as previously, we found a significant indirect effect of professional identification on whistleblowing through perceived responsibility, *B* = 0.215, $CI_{95\%}$ = [0.074, 0.379], *SE* = 0.079. Figure 5 presents the direct effects from this model. As professional identification increased so too did participants'

[16] Silence was negatively significantly related to whistleblowing (*r* = -.48), dissent directly to wrongdoers (*r* = -.44), dissent within the workgroup (r = -.57), and responsibility (*r* = -.58), all *p*s < .001; but not with identification with the profession (*r* = -.12, *p* = .067), or identification with the wrongdoers (*r* = .004, *p* = .952). Moreover, the indirect effect of identification with the profession on silence, through responsibility, was significant and negative, (*B* = -0.24, $CI_{95\%}$ = [-0.428, -0.082], *SE* = 0.088).

ratings for perceived responsibility and, in turn, the greater was their likelihood of having engaged in whistleblowing.

Moreover, the indirect relationship between professional identification and dissent expressed directly to the wrongdoers through responsibility was significant $B = 0.163$, $CI_{95\%} = [0.062, 0.299]$, $SE = 0.061$; also for dissent expressed within the workgroup $B = 0.201$, $CI_{95\%} = [0.069, 0.370]$, $SE = 0.077$.

Table 5

Point Biserial Correlation Coefficients [and 95% Confidence Intervals] (Study 1.4).

	1.	2.	3.	4.
1. Pro ID	*4.91(1.60)*	.24***	.29***	.25***
	1 - 7	[.11, .36]	[.16, .40]	[.12, .37]
2. WB	***49.1%***		.01	.55***
			[-.12, .14]	[.45, .64]
3. Wrongdoer ID	*3.57(1.62)*			-.004
	1 - 7			[-.13, .13]
4. Responsibility	*4.77(1.75)*			
	1 - 7			

Note: N = 228. First column = *Mean(Standard Deviation) and* **minimum – maximum** (or percentage of participants who engaged in whistleblowing). WB = ratings for whistleblowing intentions. Pro ID = ratings for identification with the profession. Wrongdoer ID = ratings for identification with the wrongdoer(s).

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

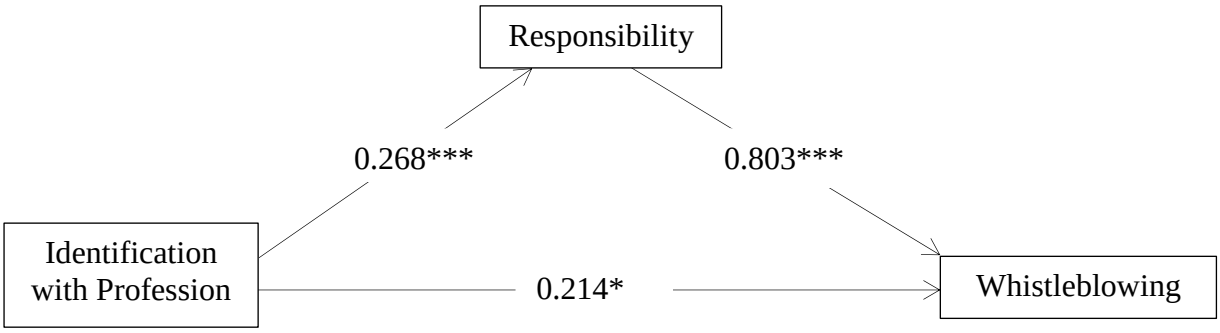

Figure 5. The direct effects in the model with professional identification entered as the independent variable, responsibility as the mediator, and whistleblowing (dichotomous yes/no) as the outcome.

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

Discussion

Contrary to expectations, strength of identification with the wrongdoer(s) did not significantly predict whistleblowing. It is possible that our finding from Study 1.1 is limited to relational closeness and the associated sense of loyalty (e.g., Waytz et al., 2013) but that it does not extend to strength of identification more generally. Supporting our other hypothesis, how much people identified with their profession (the superordinate group) was positively related to whistleblowing behaviour, and this was mediated by perceived responsibility to correct the wrongdoing. Moreover, replicating Studies 1.1 and 1.3, superordinate identification had a positive indirect relationship with dissent through perceived responsibility, suggesting again that identification with a superordinate identity predicts action beyond just whistleblowing, such as dissent. We acknowledge that a limitation of this study was that we did not ask whether participants had a profession or whether the

wrongdoing they observed violated the profession's values. Hence our inferences are conditional on these assumptions.

Mini Meta-Analysis

Following recommendations (Goh, Hall, & Rosenthal, 2016) we tested the reliability of our findings across the four studies by conducting a meta-analysis on the correlations between superordinate identification and whistleblowing. Given that we disallowed participants from participating in more than one study, our samples are independent and thus appropriate for a meta-analysis.

We conducted a fixed effects meta-analysis in which the mean effect size (i.e., correlation) was weighted by sample size. Correlations were converted to Fisher's Z for analyses and converted back to correlations for presentation. Overall, the relationship between superordinate identification and whistleblowing was positive and significant, $M\ r = .23$, $Z = 6.89$, $p < .00001$. The more strongly people rated being identified with the superordinate group the more likely they were to say they would engage in whistleblowing. The effect size was small-medium according to Cohen's criteria.

General Discussion

The present studies corroborate and provide empirical evidence for theorising that group memberships and social identities are likely to play a role in the whistleblowing decision (see also Vadera et al., 2009). In 3 out of 4 studies we found support for the hypothesis that how much people identify with a superordinate social identity positively predicts their whistleblowing intentions (and past behaviour). This is in line with our explanation for research where organisational commitment and professional identification were positively related to whistleblowing (Chen & Lai, 2014; Miceli et al., 1991; Taylor & Curtis, 2010, 2016). Our theoretical model explains these past findings by differentiating intragroup dissent from whistleblowing, corresponding to the distinction between the two

groups involved in the whistleblowing process: the offending ingroup and the group as represented by the reporting agency and on whose behalf the whistleblower is acting. Specifically, people who identify strongly with a superordinate group are more likely to act consistent with its values (Haslam, 2004; Onorato & Turner, 2004; Terry & Hogg, 1996; White et al., 2002) and thus be more likely to engage in whistleblowing and/or dissent when these values are violated. Our findings held in hypothetical scenarios across different samples of participants and for self-report about past behaviour.

We have already provided potential explanations for the inconsistent results from Study 1.2. However, a single nonsignificant result in a series of studies should not be taken as evidence for absence of an effect. Mixed results are often more likely than consistently significant ones when a true effect exists (Lakens & Etz, 2017). This is in line with our interpretation of the confidence intervals from Study 1.2 and is supported by the results of the mini meta-analysis showing a significant positive relationship between superordinate identification and whistleblowing.

Furthermore, closeness (or friendship) with the wrongdoers reduced whistleblowing intentions (Study 1.1), which is consistent with past research (e.g., Alleyne et al., 2013; De Graaf, 2010; King, 1997; Rennie & Crosby, 2002; Waytz et al., 2013). However, our hypothesis that *identification* with the wrongdoers would negatively predict whistleblowing was not supported (Studies 1.2 and 1.4). One explanation is that interpersonal relationship (rather than social identity) is critical for concerns about loyalty and what would happen to the wrongdoer(s) should an individual blow the whistle.

Taken together, our findings suggest that people may be conflicted when faced with ingroup wrongdoing. On the one hand, being close with the wrongdoers will be likely to reduce whistleblowing, perhaps out of a sense of loyalty and caring for the wrongdoer(s), but increase the likelihood of dissent expressed directly to them (Crane & Platow, 2010; Packer,

2007, 2011, 2014). On the other hand, as the Obama quote at the beginning of this paper implies, employees will be more willing to speak out, either in dissent or to blow the whistle, when they are committed to the public integrity; or, as we argue, when they are identified with a superordinate group whose values are being violated. Therefore, how narrowly or broadly people define themselves, in terms of their psychological group memberships, will be a critical determinant of how motivated they will be to speak out against wrongdoing, whether through whistleblowing or intragroup dissent. This psychological perspective illuminates a new understanding of the motivation for whistleblowing and dissent.

There are limitations to how confident we can be in our conclusions. First, we did not find support for a causal relationship. Although our priming manipulations had significant effects on ratings for superordinate identification, they did not have significant effects on ratings for whistleblowing. One explanation is that there is no causal relationship, but that the observed correlations are spurious or that causation is in the opposite direction to that which we propose. However, an alternative explanation is that the manipulation was too weak in the context of a morally charged vignette to influence whistleblowing intentions.

A second major limitation is the self-report nature of the present studies. This can give rise to demand effects so that participants respond to survey items in a way that is consistent with what they think the researchers are looking for. We attempted to attenuate this by providing a variety of response options participants could choose from. Further, what one *says* they would do may be different to what one would *actually* do. And though Study 4 was about what people did do, the autobiographical nature of it leaves open the possibility that people would engage in post hoc sense-making—"I identified with my profession and that's why I reported the wrongdoing". However, self-reported ratings for what people would intend to do in a given scenario, though flawed, can be informative about what they would be likely to do, because intentions are likely to be related to actual behaviour (Ajzen, 1991).

Even while acknowledging that they are far from decisive, our findings suggest that knowing how much an individual identifies with a group whose values have been violated can tell us something about whether they would be motivated to blow the whistle in response. Future research can address the limitations outlined above. It may be possible to develop paradigms to test these hypotheses with observable behaviour, or by using different methods such as longitudinal designs or field studies. Notably, we developed an ostensible chat room study (see the ESM 2 from OSF link to Study 1.3) and did not find support for the hypothesised relationships. However, there were methodological explanations for this that are outlined in the ESM 2. Importantly, future research on the antecedents of whistleblowing would gain much by accounting for the role of group memberships and social identities, as has been evidenced here.

Our findings have implications also for applied settings. Organisations and professional associations that would desire to correct wrongdoing which violates their values would be well advised to take measures that ensure their members' identification with them. Given that we found a strong and consistent relationship between perceived responsibility and whistleblowing, organisations should also consider finding ways that enhance their members' perceived (moral) responsibility to act against wrongdoing that violates organisational values.

Conclusion

In conclusion, the present research provides some empirical evidence for a social identity model of whistleblowing that suggests how strongly people identify with a superordinate group, whose values have been violated, will be likely to predict whether they engage in whistleblowing. Future research can test these hypotheses using behavioural observations and longitudinal field studies to address the limitations of the evidence we have presented.

CHAPTER 3: Power Within and Power from Without - Advancing the Psychology of Whistleblowing

It was the 1980s. A conspiracy of silence operated within the Queensland state government of Australia. This silence maintained a web of corruption within the police force, supporting prostitution, illegal gambling, and drug importation. That was until Jim Slade and Peter Vassallo blew the whistle and blew it loud (Masters, Olle, & Manning, 1987). As is the case for most whistleblowers, they did this in the face of risks to their personal and professional lives.

> *"There were times that I actually feared for my life and for the life of my family."*
>
> – Peter Vassallo (Former Officer, Australian Bureau of Criminal Intelligence; Willacy, Ferguson, & Harley, 2017).

In part because of the risks and costs, whistleblowing is not often a first course of action when someone becomes aware of wrongdoing within their organization or workgroup. However, when traditional means of directly confronting the wrong within the organization go ignored (or actively suppressed) what other responses are available? Some people may conform and/or remain silent, or alternatively disengage and leave the group. A few others, people like Peter Vassallo and Jim Slade, will persevere in order to create change. Whistleblowing is where an employee discloses wrongdoing to a reporting agency (any person or group outside the offending group) with the intention that it would take corrective action against the wrongdoing behavior (see also Miceli & Near, 1985; Near & Miceli, 1985). Like the example above, whistleblowing can be an important mechanism for an organization desiring to maintain high ethical standards, because it can help to detect and correct organizational wrongdoing (Brown et al., 2008; Dyck et al., 2010; Lavena, 2014; Miceli &

Near, 1988; Miethe, 1999; Proost et al., 2013). To make effective use of it, however, an organization needs to know the factors that motivate and inhibit the whistleblowing decision.

One factor that has been proposed as playing an important role in whistleblowing is a sense of power (Alford, 2001). It may seem logical that the frustrations of a personal powerlessness to effect change may lead an individual to seek help from an outside agency. However, studies have found that whistleblowers tend to be higher performers (Brewer & Selden, 1998; Miceli, Dozier, & Near, 1991; Miceli & Near, 1988), have higher levels of education, and hold higher-level positions and status within their organizations (Miceli & Near, 1988); all of which indicate that whistleblowers may tend to have relatively high levels of power. Yet, other studies have not found these factors to be related to whistleblowing (e.g., Sims & Keenan, 1998) and, even with large samples, whistleblowers and non-whistleblowers were indistinguishable with respect to these variables (e.g., Rothschild & Miethe, 1999). Vadera et al. (2009) identified other inconsistent findings in the literature with respect to gender, age, and tenure—frequently used indicators of power (e.g., Miceli & Near, 1988, 2005; Rothschild & Miethe, 1999). These inconsistencies beg the questions, what really is power in these contexts, what aspects of power are important in the whistleblowing decision, and what roles do they play?

Whistleblowing researchers have seemed to treat power as though it is a single construct, describing whistleblowers as those who are lacking in it (e.g., Callahan & Dworkin, 1994; Dozier & Miceli, 1985; Miceli & Near, 1992, 2002, 2005; Near & Miceli, 1987, 1996). We challenge this perspective, and propose a more nuanced conceptualization of power in the context of whistleblowing. Indeed, Near and Miceli (1985) have suggested that although whistleblowers may lack legitimate power, they are those who seek power from other sources. In the present paper we elaborate, suggesting that power is a multi-faceted construct and that a differentiated analysis is required to understand its complex role in

decisions to speak out against ingroup wrongdoing. We argue it is useful to distinguish between power individuals have *within* their groups (discussed as intragroup power) and power they have from *without* (vicarious intergroup power), by engaging an outside agent through whistleblowing.

The purpose of this paper is to explicate two distinct dimensions of power in the context of ingroup wrongdoing and, in doing so, address conceptual limitations in the literature where the focus has been on power as narrow and one-dimensional and as residing in the individual (e.g., through status, authority, intragroup influence). Our distinction between intragroup and vicarious intergroup power helps resolve the inconsistencies in the field by distinguishing between power that resides in the individual and "power *through*" (Turner, 2005)—that is, power through the engagement of others. This has important consequences for those concerned with empowering individuals (and would-be whistleblowers) through processes, policies, and protections. The current paper's main contribution is to show how a new conceptualization of power in the context of ingroup wrongdoing integrates past research on the antecedents of whistleblowing and dissent, and makes new predictions with regards to how those antecedents have their effect through perceptions of intragroup and vicarious intergroup power.

The Psychology of Whistleblowing

From a psychological standpoint, whistleblowing is defined as "a voluntary disclosure of ingroup wrongdoing (including omissions) to a reporting agency (person or group), outside of the offending ingroup with a view to that agency taking regulatory action to curtail the wrongdoing" (see also Jubb, 1999; Miceli & Near, 1985). The definition delineates two related groups: one group (or its members) that is involved in the wrongdoing and another that is represented by the agency to which the disclosure is made. For example, if a workgroup within an organization is engaged in wrongdoing, a member of this group may

consider disclosing it to a manager who would be the representative authority of the organization. The whistleblower would thus be recruiting an agent (the manager) that is external to the offending ingroup (the workgroup), even though both agent and offending ingroup are part of the same organization, a superordinate group.

The two groups represented in the whistleblowing context correspond to two distinct ways of influencing the wrongdoing behavior. When an individual is motivated to act against ingroup wrongdoing, perceived power can come from either of these two sources. The first source is the would-be whistleblower's perceived capacity to impact the ingroup's behavior *internally*—this is what we call *intra*group power. Those who perceive high intragroup power will tend to perceive less need for whistleblowing; for they could prevent, stop, or change the wrongdoing behavior themselves, and would thus be more likely to express intragroup *dissent*, defined as speaking out against group behavior within the group (Jetten & Hornsey, 2014; Packer, 2008, 2009). However, those who have a *low* sense of intragroup power, but nevertheless desire to confront the wrongdoing, may look to a second source of power which arises from the capacity to impact the ingroup's behavior *through* the regulatory actions of an external reporting agency—we call this *vicarious inter*group power. Perceptions of intragroup and vicarious intergroup power will, consequently, determine whether a group member motivated to act against ingroup wrongdoing will express intragroup dissent and/or engage in whistleblowing.

We note that perceived intragroup and vicarious intergroup power refer to different groups in different situations. This is because the boundary of the offending ingroup (from the perspective of the whistleblower) can expand to become more inclusive (Stewart, 1980). To illustrate this, consider a workgroup engaged in wrongdoing. One member of the workgroup (the would-be whistleblower) could report the wrongdoing to a supervisor or another reporting agency within the organization. In this situation the would-be

whistleblower's perceived *intra*group power refers to their *direct* influence on the workgroup (the offending ingroup), and vicarious *inter*group power refers to their influence on the workgroup *through* the organization and its reporting agency (the superordinate group). However, if the organization's reporting agency does not effectively handle (or actively suppresses) the reported wrongdoing, then the whistleblower may come to perceive the organization as a whole to be complicit through its omission to act. Now the workgroup member may consider reporting the wrongdoing externally, such as to a professional association. In this new situation the would-be whistleblower's intragroup power is with regards to the organization, and their vicarious intergroup power is through the professional association's reporting agency. Therefore, when considering perceptions about intragroup and vicarious intergroup power, the relevant reference groups—namely the offending ingroup and the reporting agency (or the superordinate group that it represents), respectively—are key.

Power in the Context of Whistleblowing

There are three definitional issues worth clarifying before we analyze the intra- and intergroup dimensions of power. First, we consider that power in the context of whistleblowing reflects *social* power. Broadly, power has been defined as one's capacity to intentionally affect the world (Russell, 1938) or to meet one's goals (Pratto, 2016). However, whistleblowing occurs within a social context where wrongdoing is committed by members of an ingroup, and disclosure of that wrongdoing is made to a reporting agency for it to take regulatory action. Hence in this paper we focus specifically on power in social relationships.

Social power can be conceived of as an individual's capacity to influence another's attitudes, behaviors, or beliefs (Anderson & Galinsky, 2006; Anderson, John, & Keltner, 2012; Copeland, 1994; French & Raven, 1959; Goldhamer & Shils, 1939). One can have social power to influence others because one controls resources that others desire. But there is

a type of social power that arises due *only* to human social relationships (Simon & Oakes, 2006; Turner, 2005). In this view, the capacity for influence arises as a result of people working together and in relationship with one another. One can therefore have social power *through* others (Turner, 2005). Critically, social power increases an individual's perceived ability to stop wrongdoing (e.g., Miceli, Near, Rehg, & Van Scotter, 2012).

Second, what is important is an individual's *perception* of power, rather than objective or structural power (see also Anderson et al., 2012; Galinsky, Gruenfeld, & Magee, 2003). The subjective perception of power is a psychological state reflecting an individual's perceived ability to influence others (Anderson et al., 2012). One may have structural power such as that derived from high status, rank, or position within an organization, and yet one may not perceive to have any real influence (Anderson et al., 2012; Fast & Chen, 2009). Structural power would result in greater likelihood of a specific act only to the extent that it increases one's *perceived* power (see also Tost, 2015). Miceli et al. (2012) similarly argued that, in deciding to act against wrongdoing, a more important factor than structural power is an individual's *perceived* capacity for influence (discussed as "situational leverage").

Third, when we discuss perceptions of social power in the context of whistleblowing we do not mean, in the first instance, grandiose views of oneself or (narcissistic) feelings of esteem, but rather a rational assessment of whether one can effect change to the conduct of one's group. The motivation is to change or address the group's behavior, and perceptions of power (or powerlessness) are mere determinants of the actions that one takes to satisfy this motive.

Intragroup Power: Perceived Capacity to Influence the Wrongdoing *Directly*

Group members can differ with respect to the level of influence they have on group behavior, in terms of their degree of persuasiveness, prototypicality, standing, and leadership status in their group (Brown, 1988; Hogg, 2001; Packer, 2008). We argue that the perceived

capacity for influence encapsulates not only the individual's mental and socially bestowed facilities to influence, but also perceived impediments, burdens, and costs of any influence attempts. If exercising influence is not seen as a reasonable option, such as when it is personally risky or unsafe, then one is likely to perceive less capacity for influence. We posit that efficacy and safety beliefs are likely to share a common underlying psychological construct (see also Morrison et al., 2011) reflecting one's perceived capacity to influence the offending ingroup's behavior—one's intragroup power.

The Role of *Intra*group Power in Whistleblowing and Dissent: An Integration of Past Research, and New Predictions

We posit that when members perceive high intragroup power, they will be more likely to express dissent within their group about conduct they see as immoral or wrong. Indeed, efficacy beliefs have been argued and shown to be an important predictor of voice and dissent (Ashford, Rothbard, Piderit, & Dutton, 1998; Hershcovis et al., 2017; Morrison, 2011, 2014; Morrison & Milliken, 2000; Morrison et al., 2015; Morrison et al., 2011; Packer, 2008, 2011; Pinder & Harlos, 2001). For instance, results from a survey of 1,019 business school graduates showed that their willingness to speak out about gender issues within their organizations was positively associated with their ratings about the probability of its success (Ashford, et al., 1998). Likewise, intragroup voice behavior of group members (as rated by their supervisors) was positively related to psychological empowerment, including perceived impact on what happens in the group (i.e., perceived efficacy; Frazier & Fainshmidt, 2012). Conversely, speaking up is less likely when there is the perception that it would be futile (Detert & Trevino, 2010; Morrison, 2011, 2014; Morrison & Milliken, 2000).

Moreover, the more an individual perceives that it is safe to speak up the more likely they will be to do so (Liang, Farh, & Farh, 2012; Morrison, 2011, 2014; Morrison & Milliken, 2000; Morrison et al., 2011). In support of this reasoning, a survey of employees in

a multinational firm in India found that aggregated group ratings of efficacy *and* safety beliefs (strongly correlated, $r = .79$) were positively related to how often members spoke up within their groups, as indicated by their team leaders (Morrison et al., 2011). The more intragroup power employees perceive the more likely they are to speak out internally within their groups, and express dissent.

We contend that several factors identified from the literature as important predictors of dissent are likely to have this effect only to the extent that they impact perceptions about intragroup power. These contextual factors include variables related to the perceived costs of expressing dissent, an individual's personal standing within the offending ingroup, the offending ingroup's openness to dissent, and levels of conformity with the wrongdoing. Notably, perceptions about the efficacy *and* safety of expressing dissent are likely to be a function of the same contextual variables. For example, as will be seen below, levels of conformity with wrongdoing can impact people's perceptions of both the efficacy and safety of dissent. When a large proportion of group members are conforming to the wrongdoing behavior, an individual who desires change may perceive that dissent is less likely to be effective and also that expressing dissent would be more costly and thus less safe. The key point is that the contextual factors contribute to the broader psychological construct of intragroup power and, *through this*, will affect the likelihood of dissent.

Costs of Dissent

Safety beliefs about dissent are, first, related to perceptions about associated personal costs. Indeed, the perceived likelihood of experiencing negative personal consequences is one of the main considerations in people's decision about whether to speak up (Morrison, 2011, 2014). There may be fear that speaking up about wrongdoing will be observed by others as the act of a troublemaker resulting in loss of respect (Morrison, 2014), or there may be discomfort about expressing dissent (Morrison, 2011, 2014; Packer & Chasteen, 2009). Such

anticipated costs reduce the likelihood of dissent (see also Packer, 2008) because they reduce perceptions of safety (Liang et al., 2012; Morrison, 2011, 2014; Morrison & Milliken, 2000; Morrison et al., 2011). In other words, when the perceived costs of attempting to directly influence group behavior are high (e.g., potential loss of job/promotion opportunities or social relationships) people are less likely to express dissent, but only to the extent that these costs reduce perceived intragroup power.

Personal Standing within the Group

A second main factor that we identified from the literature as an important predictor of dissent is an individual's personal standing within the group. This factor can actually be seen to consist of several variables.

Authority. The most obvious variable representing personal standing is one's authority within the group, which can derive from the ingroup's formal acceptance of one's right to direct the group's behavior due to one's position or rank, giving an individual power through influence (see Turner, 2005). For example, being in a team-leader or supervisory position may give a person direct authority over the actions of those they lead or supervise. A group member can also attain legitimate authority informally, such as when they have consistently and successfully taken a leadership role in the group, and the group has accepted that as the norm. An individual who has direct authority with respect to group behavior will be more likely to express dissent. Indeed, participants who were placed in a supervisory position, compared to those in subordinate (or equal) positions, had greater intentions to confront a wrongdoer and express dissent (Hershcovis et al., 2017). We argue that this relationship between legitimate authority and expressing dissent is likely due to an increase in perceived intragroup power.

An individual who derives intragroup power from direct authority will perceive less need for whistleblowing because they can effect change themselves, directly. One would

expect, then, that team-leaders and supervisors who perceive wrongdoing committed by those in their group, under their authority, will be less likely to engage in whistleblowing than other group members. There is evidence that, at first glance, seems to contradict this expectation. Survey data from 8,500 employees showed that those who reported wrongdoing to a reporting agency *within* the organization were *more* likely to be in supervisory positions (Miceli & Near, 1984; cf. Lee, Heilmann, & Near, 2004). However, in the same survey, whistleblowers who reported wrongdoing to a reporting agency *external* to the organization were *less* likely to be in supervisory positions (Miceli & Near, 1984). These findings are congruent with our predictions for intragroup power.

To the extent that reporting to agencies within the organization may involve organization-level wrongdoing the act may be more precisely one of dissent. And, those with higher organizational rank (e.g., supervisory status) would be more likely to perceive a capacity to effect change internally, by expressing dissent within the organization, than would others who hold lower-level positions. Consistent with this point, Callahan and Dworkin (1994) have argued that employees with high intra-organizational power, such as when they have supervisory responsibility, will be less likely to engage in whistleblowing and report wrongdoing to agencies outside of the organization.

Moreover, sometimes a position of authority coincides with a sense of power and sometimes it does not (e.g., Anderson et al., 2012). Being in a supervisory position does not automatically imbue one with power, in the sense of influencing the offending group's wrongdoing behavior. To illustrate, consider a workgroup engaged in wrongdoing within an organization. The supervisor of this workgroup would have authority over its actions and would thus have little need to report wrongdoing committed by it. In this case, the supervisory status of the individual gives them authority, which increases their perceived intragroup power, in turn reducing their need for whistleblowing because their dissenting

voice is likely to be heeded. But what about a situation where the same supervisor observes wrongdoing committed by another workgroup over whom they have no authority? In this alternative case, the individual's supervisory status does not enhance their perceived intragroup power, and they may thus need to resort to whistleblowing because their dissenting voice is less likely to be heeded. We posit that authority, such as that derived from one's supervisory position, will only increase the likelihood of dissent and decrease the likelihood of whistleblowing to the extent that it increases perceived intragroup power, which it would do when one has perceived authority vis-à-vis the offending ingroup.

Relative intragroup status. Another variable identified as a potential predictor of dissent, related to personal standing within the group, is an individual's status relative to the group member(s) engaged in the wrongdoing. Morrison (2014) hypothesized that employees who perceive higher status will be more likely to speak up. Critically, a person's status within their group is likely to partly determine their persuasive capacity. And, as Turner (2005) argues, one's ability to persuade the group that their behavior is immoral or wrong and that changing the behavior is moral or right, is power through influence. Group members with lower status are likely to perceive less capacity to influence those with higher status, whereas higher-status group members will perceive greater capacity to influence those with lower status (Gundlach, Douglas, & Martinko, 2003; Morrison, 2014) and to influence group behavior more generally (Anderson et al., 2012; Brown, 1988; Hirschman, 1970). Hence it is through the perceived capacity for influence, and thus intragroup power, that a group member's relative status may impact the likelihood of expressing dissent.

Related to status, Hollander (1958) argues that those who accrue positive evaluations from other group members (discussed as idiosyncrasy credits) are given greater latitude to deviate from group norms. This would mean that the more idiosyncrasy credits an individual perceives to have within their workgroup the more they will perceive intragroup power, and

thus the more likely they will be to express dissent against other group members' wrongdoing behavior. Moreover, people who are indispensable to their group, or central to their group's functioning, will have more idiosyncrasy credits and higher intragroup power. Supporting this argument, in a sample of 184 bank employees in India, work-group centrality was positively related to intragroup dissent (as rated by their managers), and this relationship was mediated by personal influence within the group (Venkatarami & Tangirala, 2010). Workgroup centrality and idiosyncrasy credits (both related to intragroup status) would increase the likelihood of dissent when and if they increase perceived intragroup power.

However, we acknowledge that the relationship between perceived status and dissent may be complex. As Packer (2008) argued, having high status increases the likelihood of dissent, but at the same time it can reduce its likelihood, such as when one's status has been gained by conforming to group norms. This complexity is addressed by considering *perceptions* of intragroup power. Status gained through conforming to group norms would correspond to low perceived intragroup power, whereas status that relates to independence or autonomy is likely to enhance intragroup power and would therefore increase the likelihood of dissent. The effect of an individual's status on dissent will depend on how it affects perceived intragroup power.

The Offending Ingroup's Openness

Another of the main factors identified in the literature as likely to influence the expression of dissent is the offending ingroup's perceived openness to dissent and criticism. For example, a survey of 232 employees found that the likelihood of dissent was positively related to perceived freedom of speech within the organization (Kassing, 2000). Similarly, across three studies, a target person's perceived openness predicted how likely participants were to speak up and not remain silent (Morrison et al., 2015). One reason for this may be that when the offending person or group is open to dissenting views, then group members

wanting to address a wrongdoing are likely to perceive that speaking to the group would be an effective strategy for change (see also, Morrison, 2011, 2014; Morrison et al., 2015). An ingroup's perceived openness to dissent or critical opinions is likely to reduce group members' concerns about negative repercussions of speaking out within the group against its conduct; increase perceptions about how normative voicing dissent within the group is; and thereby increase the perceived receptiveness and responsiveness of the group to such dissent. Hence people who perceive that an offending ingroup will be open to their dissenting voice will be more likely to express dissent against wrongdoing because they perceive greater intragroup power.

Conformity

The final factor that we identified in the literature as an important predictor of dissent is the perceived level of conformity to the wrongdoing. Higher levels of conformity within the group will increase pressure on members to also conform and reduce expressions of dissent (Asch, 1955, 1956). Such normative pressures in the context of ingroup wrongdoing can decrease an individual's perceived ability to influence the group; dissent would be perceived as less efficacious and intragroup power would be low. With increasing levels of conformity there will also be a corresponding increase in the perceived costs (e.g., rejection and ostracism) of not conforming. In support of this point, a meta-analysis showed that there is a tendency for nonconformists to be rejected by other group members (Tata et al., 1996). Dissent, an act of nonconformity, is likely to be inhibited for group members who wish to avoid the associated costs (Packer, 2008). High levels of conformity to the wrongdoing will therefore reduce the likelihood of dissent by decreasing perceived intragroup power.[17]

[17] Although this suggests that high levels of conformity would *increase* the likelihood of whistleblowing, due to reduced intragroup power, some researchers have argued that

In summary, many of the factors discovered as antecedents of dissent in the literature are likely to have their influence only in so far as they affect perceived intragroup power. When motivated to change ingroup wrongdoing, group members will be more likely to use intragroup dissent when they perceive high intragroup power, which is itself impacted by factors related to the cost of dissent, the individual's standing within the group, the group's openness to criticism, and the level of conformity to the wrongdoing. Other factors would also affect perceptions of intragroup power, such as personality variables or an individual's general ability to form social networks. Our focus on the aforementioned factors was mostly driven by findings in the literature for dissent and voice, and served the purpose of showing how their influence on the likelihood of dissent is determined through their impact on the psychological construct of intragroup power. For any individual motivated to act against ingroup wrongdoing it is the *overall* perception of intragroup power that is a key determinant of whether they would engage in dissent.

On the other hand, when people believe that they cannot change the wrongdoing themselves, directly, when they perceive low intragroup power, they will be more likely to consider whistleblowing. Indeed, whistleblowers tend to be those who feel responsible for acting to change ingroup wrongdoing but who lack power to do so from within (Callahan & Dworkin, 1994; Dozier & Miceli, 1985; Jackson et al., 2010; Miceli & Near, 1992; Near &

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whistleblowing would actually be *decreased* due to the increased pressures to conform (e.g., Greenberger et al., 1987). Indeed, whistleblowing is another act of nonconformity which can entail costs for the individual, reducing its likelihood. Levels of conformity may therefore increase the likelihood of whistleblowing by decreasing perceived *intra*group power, but at the same time decrease the likelihood of whistleblowing by increasing its perceived costs and thus decreasing vicarious *inter*group power. This complexity is in line with our argument for consideration of the would-be whistleblower's subjective perceptions of intragroup and vicarious intergroup power.

Miceli, 1985, 1987). Several studies provide support for this proposition. For example, interviews with 11 nurses revealed that they had blown the whistle externally because their concerns first expressed within the organization were not supported (Jackson et al., 2010). Likewise, an analysis of interviews with 50 employees showed that whistleblowing to an external agency was more likely to follow when the organization did not effectively handle internal concerns (Henik, 2015). Another analysis of 51 cases of whistleblowing showed that, for every case analyzed, whistleblowing to a reporting agency outside of the organization occurred *only* after internal complaints failed to achieve change (Stewart, 1980). These findings suggest that people are likely to first consider addressing ingroup wrongdoing by expressing intragroup dissent; whistleblowing to an external reporting agency will be more likely when internal efforts have failed, when individuals have experienced, or for various reasons anticipate, low intragroup power. This is when vicarious *inter*group power becomes important.

Vicarious Intergroup Power: Perceived Capacity to Influence the Wrongdoing *Indirectly*, Through the Influence of a Reporting Agency

In the context of ingroup wrongdoing, vicarious intergroup power refers to an individual's perceived capacity to influence the wrongdoing *indirectly*, through the power or influence of a reporting agency recruited via whistleblowing. For example, an accounting organization violating the accounting profession's code of conduct may be perceived by an employee as the offending ingroup. The employee may be motivated to act against the organization's wrongdoing, but if they perceive low intragroup power then expressing dissent internally will be less likely. Another source of power for the employee to effect change is through the influence of the National Charter of Accountants (the professional association) and/or its representative agents. In this sense, an individual can perceive vicarious power to effect change through a reporting agency's influence over the offending ingroup. We call this

vicarious intergroup power. Like intragroup power, vicarious intergroup power is a construct representing the psychological state of the would-be whistleblower and is comprised of perceptions about the efficacy *and* safety of whistleblowing.

The Role of Vicarious Intergroup Power in Whistleblowing: An Integration of Past Research, and New Predictions

There is evidence to suggest that perceived whistleblowing efficacy, as determined by a variety of factors, is important in the whistleblowing decision (Kaptein, 2011; Keil et al., 2010; Miceli & Near, 1984; Near & Miceli, 1987; Park & Blenkinsopp, 2009; Seifert et al., 2010; Taylor & Curtis, 2013, 2016; Wortley et al., 2008). For example, a survey of Australian public sector employees showed that they would be more likely to blow the whistle when they believed that corrective action would be taken by the reporting agency (Wortley et al., 2008). Likewise, Miceli and Near (1984) found that for a majority of the 8,500 employees surveyed, the likelihood that the reporting agency would take corrective action was an important determinant of whether employees would engage in whistleblowing (see also Curtis & Taylor, 2009; Jones et al., 2014; Miceli & Near, 1988, 1992; Taylor & Curtis, 2013, 2016). In fact, among personnel of a military base who had observed wrongdoing, the reason most often given for *not* reporting was that "nothing *could* be done" (emphasis in the original; Near, Rehg, Van Scotter, & Miceli, 2004, p. 230). It is clear and perhaps unsurprising that whistleblowing's perceived effectiveness plays an important role in whether an individual will engage in it.

Relatedly, the second most common reason cited by military personnel for remaining silent was that "reporting was too risky" (Near et al., 2004, p. 230). The risks associated with whistleblowing contribute to one's sense of powerlessness to act against ingroup wrongdoing. A sense that it would be risky and unsafe, and that blowing the whistle is not a viable option, corresponds to a reduced capacity to influence the wrongdoing behavior (through the

influence of the reporting agency). Taken together, observers of wrongdoing will be more likely to engage in whistleblowing when they perceive that it will be efficacious and safe, when they perceive vicarious intergroup power.

There are several contextual factors in the whistleblowing literature, cited as important antecedents in the whistleblowing decision, that we propose are likely to be important because of their effect on vicarious intergroup power. These factors are related to whistleblowing's associated costs, institutional support for whistleblowers, procedural knowledge about reporting channels, the perceived power of the reporting agency, and concern for the wrongdoer(s). We will argue that such contextual factors contribute to the psychological construct of vicarious intergroup power and, *through this*, influence the whistleblowing decision.

Whistleblowing Costs

Whistleblowing's associated costs are one of the major factors that influence whistleblowing (e.g., Alleyne, Hudaib, & Haniffa, 2016; Ayers & Kaplan, 2005; Cho & Song, 2015; Curtis, 2006; Dalton & Radtke, 2013; Ellis & Arieli, 1999; Kaplan & Whitecotton, 2001; Latan et al., 2016; Park & Blenkinsop, 2009; Trevino & Victor, 1992). For example, believing that one would be ostracized negatively impacts the whistleblowing decision (Cho & Song, 2015; Miceli & Near, 1984, 1988; Nitsch, Baetz, & Hughes, 2005). And, the perceived likelihood of retaliation reduces the likelihood of whistleblowing (Alleyne et al., 2013; Cassematis & Wortley, 2013; Cho & Song, 2015; Glazer & Glazer, 1989; Hersh, 2002; Miceli & Near, 1985, 1988, 1992; Near & Miceli, 1985, 1987; Nitsch et al., 2005; O'Sullivan & Ngau, 2015; Perry, 1998; Rothschild & Miethe, 1999; Smith, 2014; Smith & Brown, 2008). Indeed, in an interview study in Amsterdam, the most important reason for not whistleblowing was fear of retaliation (De Graaf, 2010). Retaliation can include job loss or being passed up for promotion, as well as other fears of reprisal that would-be whistleblowers

take into consideration (e.g., Brink, Eller, & Gan, 2015; Gundlach et al., 2003; Hersh, 2002; Miceli & Near, 2005; Milliken, Morrison, & Hewlin, 2003; Perry, 1998). Anticipating potential retaliation or other personal costs will reduce the likelihood of whistleblowing by decreasing its perceived safety. Decreasing safety, and/or decreasing ability to tolerate or absorb anticipated personal costs, mean reduced vicarious intergroup power.[18]

Institutional Support

A second important antecedent of whistleblowing is the level of institutional support for whistleblowers. Institutional support can take several related forms.

Protection from retaliation. One form of institutional support is to protect whistleblowers from retaliation. Such protection makes employees more likely to report wrongdoing that they have observed (Alleyne et al., 2016; Cho & Song, 2015; Miceli & Near, 1992; Miceli et al., 1999; Wortley et al., 2008; cf. Miceli et al., 2012). Formal institutional frameworks (such as laws and policies) that provide protection can act to empower would-be whistleblowers and increase the incidence of whistleblowing (Skivenes & Trygstad, 2010). In support of this point, the likelihood of whistleblowing was found to be positively associated with laws regulating whistleblower protections (Klass, Olson-Buchanan, & Ward, 2012). Similarly, among a random sample of federal employees, the proportion of those who observed wrongdoing and reported it increased from 1980 to 1983, corresponding to the introduction of whistleblower-protection legislation (Miceli & Near, 1989; see also Miceli et al., 1999; cf. Dyck et al., 2010). Furthermore, participants in one study said that

[18] We note that not all personal costs are due to reprisal. In some situations, a whistleblower may lose an important position, or employment altogether, due to the potential demise of their team or organization. Therefore, whistleblowing costs would not necessarily have to be vengefully imposed upon the whistleblower. Nevertheless, such costs may be personal sacrifices that one would consider.

their ability to speak up to management was impacted by how safe they felt about it and that they felt safer when their supervisors provided support or protection (Detert & Trevino, 2010). Protection from retaliation gives the perception of safety and therefore increases the likelihood of whistleblowing because it increases vicarious intergroup power.

Encouraging whistleblowing. An institution can also be seen as supportive to whistleblowers when it encourages people to report wrongdoing. Indeed, a measure of organizational support that included how much the organization actively encouraged whistleblowing was found to be positively related to whistleblowing intentions (Cho & Song, 2015). Relatedly, whistleblowing intentions were higher when organizational policies encouraged the reporting of irregularities (Keil et al., 2010). Institutions that encourage reporting reduce the perceived likelihood of retaliation, increase perceived safety, and increase the perceived effectiveness of whistleblowing (Keenan, 1990; Keil et al., 2010), thereby increasing the likelihood of whistleblowing by promoting vicarious intergroup power.

People can also perceive encouragement for whistleblowing when the reporting agency (or the superordinate group it represents) is seen to be open and receptive to reports of wrongdoing. Generally, employees are likely to speak up about their concerns to the extent that their supervisors and managers are open to it (Detert & Burris, 2007; Detert & Trevino, 2010). This relationship between supervisor openness and the likelihood of speaking up was shown to be mediated by perceptions of safety (Detert & Burris, 2007). Hence a reporting agency that gives the impression of being open to reports of wrongdoing will encourage employees to engage in whistleblowing.

We contend that employees will be more likely to engage in whistleblowing when they perceive that the institution is supportive, in the sense that there is protection from

retaliation and encouragement for whistleblowing. Importantly, this is because institutional support increases vicarious intergroup power.

Procedural Knowledge

A third main antecedent of whistleblowing is one's knowledge of whistleblowing channels and procedures. With no knowledge of how, where, or to whom wrongdoing should be reported, whistleblowing is unlikely to be perceived as an efficacious strategy. In fact, people can refrain from whistleblowing due to a lack of awareness of whistleblowing channels (King, 1997; Miceli & Near, 1992; Near & Miceli, 1987). Corroborating this point, one study found that, compared to non-whistleblowers, whistleblowers had more knowledge of whistleblowing channels (Miceli & Near, 1985), and another study found that education about whistleblowing procedures was positively related to whistleblowing intentions (Cho & Song, 2015). Information about where to report wrongdoing increases the perceived effectiveness of whistleblowing for influencing an ingroup's wrongdoing behavior, and is negatively related to fear of retaliation (Keenan, 1990). Therefore, knowledge about reporting channels—that is, procedural knowledge related to the reporting of wrongdoing—would increase the likelihood of whistleblowing by increasing vicarious intergroup power.

Power of the Reporting Agency

Fourth, whistleblowing is likely to be determined by whether the reporting agency is perceived to have the authority or power to address the reports that it receives. When an employee engages in whistleblowing they are attempting to recruit the reporting agency to exercise its power to prevent, stop, or change the wrongdoing behavior, or to take disciplinary action. From the perspective of the would-be whistleblower, an important consideration is the extent that the reporting agency has sufficient power to effect change (see also, Miceli & Near, 2002). Relatedly, when the reporting agency has the resources to deal with reports appropriately, whistleblowing will be more likely (Lavena, 2014; Vadera et al.,

2009). The perceived power of the reporting agency, including its resources, authority, and political will (or desire) to deal with the wrongdoing, will impact the perceived effectiveness of whistleblowing, and thus perceptions of vicarious intergroup power. It is through this that the perceived power of the reporting agency is likely to be related to whistleblowing.

Concern for Wrongdoer(s)

The final major factor we identified from the literature as likely to influence the whistleblowing decision, through its effect on vicarious intergroup power, has to do with the negative consequences of whistleblowing for others that the whistleblower cares about (see also, De Graaf, 2010). Loyalty, camaraderie, and relationship closeness with wrongdoers have been identified as inhibitors of whistleblowing in studies using interviews (De Graaf, 2010; Erickson, Backhouse, & Carless, 2017; Milliken et al., 2003), focus-groups (Rennie & Crosby, 2002), experiments (Curphy et al., 1998; King, 1997; Waytz et al., 2013), and a meta-analysis (Mesmer-Magnus & Viswesvaran's, 2005). This inhibitive effect may occur because whistleblowing on friends will be perceived as disloyal and potentially harmful to relationships (King, 1997). Concern for others and for one's relationships with them can therefore reduce the perceived safety of whistleblowing when one fears harming those others and/or how one will be perceived by them (e.g., as disloyal). Concern for the wrongdoers would thus inhibit whistleblowing because it decreases vicarious intergroup power.

In summary, the aforementioned antecedents of whistleblowing are likely to be important because of how they affect vicarious intergroup power.

General Discussion

In this paper, we have expounded two psychological constructs to help advance understanding of the whistleblowing decision. Specifically, *intra*group power refers to the perceived efficacy and safety of speaking up against the wrongdoing directly to those engaged in it; it is *the perceived capacity to prevent or change the ingroup's wrongdoing*

behavior through one's direct influence on the group. Intragroup power is determined by a variety of factors, including the personal costs of dissenting, one's personal standing within the group, the offending ingroup's perceived openness to criticism, and the level of conformity with the wrongdoing. Vicarious *inter*group power refers to the perceived efficacy and safety of whistleblowing; *it is the perceived capacity to prevent or change the ingroup's wrongdoing behavior through the influence of a reporting agency*. Factors that impact vicarious intergroup power include whistleblowing costs, institutional support for whistleblowers, procedural knowledge about whistleblowing channels, the perceived power of the reporting agency, and concerns about negative consequences for close others. We posit that perceptions about intragroup and vicarious intergroup power will determine what people will do when they are motivated to address ingroup wrongdoing. An individual who perceives high intragroup power will be more likely to express intragroup dissent (Morrison, 2011; Packer, 2008, 2011); whereas upon perceiving low intragroup power, such as when dissent has failed to effect change, vicarious intergroup power will determine whether the individual engages in whistleblowing as a suitable alternative.

Our conceptual analysis has several implications. First, it challenges the current state of the literature, which has tended to focus on power as a narrow construct whereby a whistleblower is one who does not possess it (e.g., Callahan & Dworkin, 1994; Dozier & Miceli, 1985; Miceli & Near, 1992, 2002, 2005; Near & Miceli, 1987, 1996). Our analysis builds on Near and Miceli's (1985) suggestion that whistleblowers pursue power for change from elsewhere. In whistleblowing, an individual seeks to effect change through the power of a reporting agency. The contribution of this paper is to connect this understanding of the whistleblowing process with Turner's (2005) theory of "power *through*", by proposing that power for change through whistleblowing—that is, through the influence of a reporting agency—offers a psychologically distinct experience of power for people who are motivated

to act against wrongdoing. This is a critical conceptual point, because it accounts for the subjective experience of social power vicariously, through others, and draws on a distinction between power that resides in the individual and power *through* (Turner, 2005). Therefore, researchers need to consider the would-be whistleblower's perceptions about intragroup and vicarious intergroup power as discrete psychological constructs.

Second, our analysis helps to make sense of inconsistencies in the literature. For example, Miceli and Near (2005) state that demographic variables such as age, years of service, and education can serve as indicators of power; but they acknowledge that these may be unreliable and often weak predictors of whistleblowing (see Vadera et al., 2009 for a review of other findings in the literature with inconsistent results). Such inconsistencies are explained by considering that the many different factors identified in past research as antecedents of dissent and whistleblowing are likely to operate *through* how they impact the psychological constructs of intragroup and vicarious intergroup power. Whereas research has looked at each of the antecedent factors separately, we have argued that what matters most is their overall cumulative effect on these distinct psychological constructs of *perceived* power, and that they are likely to be important only in so far as they feed into perceived intragroup and/or vicarious intergroup power.

Our conceptual analysis provides several testable predictions that can be examined in future work. For example, researchers could investigate whether the factors identified in this paper (and perhaps others not discussed) actually do impact dissent and whistleblowing *through* perceptions of intragroup and vicarious intergroup power, respectively; and whether these psychological constructs of power are the better and more consistent predictors of how people respond to wrongdoing. Further, researchers can explore the cumulative effects of the antecedents of dissent and whistleblowing on perceived intragroup and vicarious intergroup power, and identify those that are most important and that can be targeted by interventions

and policies. Findings from such studies can provide important insights for those concerned with empowering individuals to act against wrongdoing

Moreover, measurement instruments for each of the power constructs can be developed and validated for use in future research. Likewise, scales can be developed for each of the factors that impact whistleblowing and dissent through perceptions of power. Such multi-faceted instruments can be used by organizations, professional associations, and other institutions that desire to maintain high ethical standards and/or avoid external whistleblowers, by helping to keep whistleblowing procedures and policies finely tuned. These validated instruments with good psychometric properties can therefore be used in future research and in field settings with practical applications.

Clarifications

Before concluding, we would like to clarify some points for the reader. Our presentation of the intragroup and vicarious intergroup power constructs, and interplay between them, has been largely focused on the rational actor (i.e., consequentialist or utilitarian). Such people who desire to change a wrongdoing behavior will consider their capacity for direct influence (intragroup power) and, as an alternative, their capacity for influence through another agency (vicarious intergroup power). We acknowledge that our arguments may not hold as strongly for an individual who acts out of moral duty, where the action is more important than the consequences (i.e., deontologist); or, in fact, for someone who acts maliciously, out of spite, only intent on damaging the group they are reporting on. A critical assumption of our arguments for the roles of intragroup and vicarious intergroup power in whether someone engages in dissent or whistleblowing is that the individual is driven by a desire to *change* the wrongdoing behavior.

Interestingly, however, when attempts at changing the group through internal processes fail, one's frustration could make feelings of powerlessness an added motivation to

blow the whistle, as a means of empowerment. This suggests that a distinction between prosocial and malicious whistleblowing is not always clear cut. It would be malicious if the whistleblower's claims are made up in order to damage the group, resulting perhaps from a grudge against the group because it has previously treated the individual unfairly. Whistleblowing could then be an act of revenge. Even in this scenario, however, power could be an underlying motive: victimized people tend to feel humiliated or disempowered, and their revenge may be motivated by a desire to hurt and diminish the group, and empower themselves (Wenzel, Okimoto, Feather, & Platow, 2008). Moreover, prosocial whistleblowing may be at least *partly* motivated by non-prosocial reasons (Dozier & Miceli, 1985). When people feel they are not listened to or that they are disrespected within the group, perhaps admonished, and even wronged, they may turn to whistleblowing not only because it is 'the only way' to effect change, but also because it gives them a sense of empowerment and ability to 'get back at them'. Therefore, for both malicious and prosocial whistleblowing, perceptions of power (or powerlessness) are likely to be an important factor in the whistleblowing decision.

It is further possible that some people will not make use of dissent irrespective of their perceived intragroup power; or that there will be others who will engage in whistleblowing *and* dissent even if the dissent was effective. For example, one may engage in whistleblowing because one feels it is "the right thing to do". To such a person, apart from preventing further wrongdoing, it could also be important that a reporting agency is aware of the situation. Or, their privileged position (of evidence, status, etc.) may give them a sense of responsibility to ensure that the wrongdoing is reported (e.g., Miceli & Near, 1988, 2002; Miceli et al., 1991; Miceli et al., 2012).

Conclusion

In conclusion, the present paper highlights the role of a subjective sense of power in dissent and whistleblowing. Specifically, it presents and defines two psychological constructs—namely, intragroup power and vicarious intergroup power—and shows how this theoretical advancement integrates past research findings by bringing focus onto the subjective perspective of a would-be whistleblower, and makes novel predictions for future research. An individual who is motivated to act against the wrongdoing of other ingroup members will be more likely to express a dissenting voice when intragroup power is high and, to the extent that it is successful, less likely to engage in whistleblowing. But when dissent fails and perceived intragroup power is low, the individual will be more likely to engage in whistleblowing when vicarious intergroup power is high.

CHAPTER 4:

Power Within and from Without: Evidence for two Distinct Psychological Constructs of Power in Dissent and Whistleblowing

"*We need to empower federal employees as watchdogs of wrongdoing and partners in performance. Barack Obama will strengthen whistleblower laws to protect federal workers who expose waste, fraud, and abuse of authority in government.*"

— Barack Obama's 2008 election campaign (Allen, 2008)

People who observe and desire to stop wrongdoing committed by their ingroup peers may have at least two options: express dissent directly to those involved in the wrongdoing, or report it to a relevant authority—that is, engage in whistleblowing. Whistleblowing is often portrayed as the behaviour of those without power, who cannot speak out and change the situation themselves (e.g., Callahan & Dworkin, 1994; Near & Miceli, 1985). This may be taken to imply that whistleblowers are powerless. Clearly, the quote from Obama above suggests otherwise: employees need to be empowered to become whistleblowers. How can we reconcile these two views? And what exactly would it mean to empower someone to become a whistleblower?

To answer these questions, we present a multi-dimensional perspective on power for people who want to address ingroup wrongdoing, arguing for two distinct sources of influence. This is in contrast to the treatment of power in the whistleblowing literature as a unitary construct, implying that whistleblowers do not possess power (e.g., Callahan & Dworkin, 1994; Dozier & Miceli, 1985; Miceli & Near, 1992, 2002, 2005; Near & Miceli, 1987, 1996). In our perspective, the first source of power resides in the individual, representing the extent that they have direct influence on the wrongdoer(s), which can be exercised via intragroup dissent—speaking out against the wrongdoing directly to those

engaged in it (see Jetten & Hornsey, 2014; Packer, 2008, 2009). However, the individual can also exercise influence indirectly, through others. Hence the second source of power represents the capacity to influence the wrongdoer(s) *through* the influence of an external reporting agency—a person or group to whom wrongdoing can be reported. We propose that these two sources of power correspond to two distinct psychological constructs.

In the present paper we (1) define and present evidence for two psychological constructs of power in the whistleblowing context, (2) identify their critical components, (3) conceptually and empirically distinguish them from other related constructs, (4) present psychometric evidence for scales designed to measure them, and (5) identify contextual variables that contribute to them.

Power as Influence in the Context of Ingroup Wrongdoing

Power may be broadly construed as one's ability to affect the world intentionally (Russell, 1938). However, we are concerned specifically with power in the context of whistleblowing. From a psychological perspective, whistleblowing refers to an individual disclosing a wrongdoing committed by other members of their group (the ingroup) to a reporting agency (person or group) outside the ingroup, with the intention for that agency to change the wrongdoing behaviour (see also Jubb, 1999; Miceli & Near, 1985). Critically, the reporting agency is outside the offending ingroup, even if it may be part of a superordinate group that also encompasses the ingroup (e.g., a compliance management team regulating the behaviour of workgroups, both being part of the organisation). The whistleblower attempts to influence the wrongdoing behaviour of other ingroup members through the influence of a reporting agency. The capacity to influence others gives rise to what has been called social power (Anderson & Galinsky, 2006; Anderson et al., 2012; Copeland, 1994; French & Raven, 1959; Goldhamer & Shils, 1939; Simon & Oakes, 2006; Turner, 2005).

A critical factor in the context of whistleblowing is one's *perceived* capacity to influence the wrongdoing (see "situational leverage" in Miceli et al., 2012), because it is this perception that affects one's decision about whether and how to take corrective action. Any form of objective or structural power would only determine an individual's behaviour when it impacts their perceptions of power (see also Tost, 2015). For example, an employee in a supervisory position has structural power within an organisation but may perceive little capacity for influence due to other contextual factors (e.g., Anderson et al., 2012; Fast & Chen, 2009), such as perceived disrespect from subordinates. This psychological perspective can help to make sense of some inconsistencies in the whistleblowing literature. Research on the antecedents of whistleblowing has produced mixed results regarding gender, age, and employee tenure (Vadera et al., 2009). Some research has found that whistleblowers are higher performers (Brewer & Selden, 1998; Miceli, Dozier, & Near, 1991; Miceli & Near, 1988), and hold higher positions with greater organisational status (Miceli & Near, 1988), yet other studies have failed to replicate many of these findings (e.g., Sims & Keenan, 1998) even with large samples (e.g., Rothschild & Miethe, 1999). We propose that such demographic or structural variables considered to be indicators of power (e.g., Miceli & Near, 1988, 2005; Rothschild & Miethe, 1999) will only be predictive of whistleblowing to the extent that they impact subjective perceptions of power.

Perceived Intragroup Power

Once an individual is motivated to act against wrongdoing, what action (if any) they take will depend on their *perceptions* about two types of social power. The first arises from one's perceived capacity to influence the wrongdoing directly, such as by persuading the wrongdoer(s) to change their behaviour or exercising direct authority over them (Turner, 2005). We refer to this as perceived *intra*group power because it is the perceived capacity to influence group behaviour *internally*, by expressing dissent *within* the group. Intragroup

power is defined as *one's perceived capacity to prevent or change the ingroup's wrongdoing behaviour through one's direct influence on the group*.

The core components of intragroup power are (a) the perceived effectiveness and (b) the perceived capacity (including perceptions of 'safety') of expressing dissent against the wrongdoing. These incorporate the impediments and costs of influence attempts because when such attempts are risky and unsafe then group members would perceive less capacity for influence. Indeed, people's willingness to speak up is positively related to safety beliefs (see Morrison et al., 2011) as well as perceived efficacy (see Ashford et al., 1998; Hershcovis et al., 2017; Morrison 2011; 2014; Morrison & Milliken, 2000; Morrison et al., 2011; Packer, 2011); both of which were found to be highly correlated (r = .79; Morrison et al., 2011). We argue that safety and efficacy beliefs represent a common psychological construct (see also Morrison et al., 2011)—namely, perceived intragroup power—that plays a major role in whether an individual expresses intragroup dissent. People who desire to address an ingroup's wrongdoing will be more likely to express dissent directly to those engaged in it when they perceive high intragroup power (see also Hershcovis et al., 2017) and, consequently, less likely to perceive a need for whistleblowing.

An important contribution of this paper is to show that perceived intragroup power is the mechanism through which many antecedents of dissent are likely to operate. Our review of the literature revealed three main contextual variables identified as important predictors of dissent. The first is the anticipated personal costs. When group members perceive that it will be personally costly, they will be less likely to express dissent because it will be perceived as less safe for them (Liang et al., 2012; Morrison, 2011, 2014; Morrison & Milliken, 2000; Morrison et al., 2011). In other words, perceived costs and threat to safety diminish the individual's perceived intragroup power. Hence, we predict that the relationship between dissent costs and expressing dissent will be mediated by intragroup power.

Another important antecedent of dissent is one's personal standing within the group. An individual with legitimate authority due to their supervisory or leadership position will have power through influence (Turner, 2005). Indeed, participants in supervisory positions were more likely than those not in supervisory positions to confront a wrongdoer and express dissent (in hypothetical vignettes and retrospective behavioural recall; Hershcovis et al., 2017). One's status within the group may also affect one's perceived influence on group behaviour (Anderson et al., 2012; Brown, 1988; Gundlach et al., 2003; Hirschman, 1970; Morrison, 2014). We argue that such variables relating to one's personal standing in the group will positively predict dissent only to the extent that they increase perceived intragroup power.

The third contextual factor related to dissent is the group's openness to criticism. Perceived freedom of speech was positively related to employees' willingness to express dissent (Kassing, 2000), because freedom of speech gives the impression of openness to criticism. When a group is perceived to be open to dissent, speaking up within the group will be more likely to be perceived as effective and safe, increasing group members' perceived intragroup power and, consequently, the likelihood that they would speak up (Morrison, 2011; 2014; Morrison et al., 2015). Therefore, we propose that perceptions about a group's openness to criticism will be indirectly related to dissent, through perceived intragroup power.

Vicarious Intergroup Power

To the extent that the abovementioned antecedents of dissent increase perceived intragroup power, they will increase the likelihood of dissent. When one perceives low intragroup power, however, there is another source of influence to draw from. Those who lack power to change wrongdoing themselves may strive for change through other means, attempting influence through whistleblowing (Callahan & Dworkin, 1994; Dozier & Miceli,

1985; Jackson et al., 2010; Miceli & Near, 1992; Near & Miceli, 1985; 1987). Hence, the second source of power arises from the perceived capacity to influence group behaviour *from without*, through the power of a reporting agency. In this sense, the capacity for influence comes not from the individual per se, but vicariously, through an agent outside of the group. We refer to this as *vicarious inter*group power.

Vicarious intergroup power is defined as *one's perceived capacity to prevent or change the ingroup's wrongdoing behaviour through the influence of a reporting agency*. Its core components are (a) the perceived effectiveness and (b) the perceived capacity (including perceptions of safety) of engaging in whistleblowing. Safety beliefs are important for whether employees speak up to higher-level management (Detert & Trevino, 2010), and the risks associated with whistleblowing are a reason to remain silent (Near et al., 2004). Likewise, the perceived efficacy of reporting is positively related to whistleblowing (Dozier & Miceli, 1985; Keil et al., 2010; Miceli & Near, 1984, 1992; Near & Miceli, 1987; Wortley et al., 2008). We propose that beliefs about the efficacy and safety of whistleblowing jointly represent the concept of vicarious intergroup power.

In reviewing the literature, we identified five main contextual predictors of whistleblowing that we propose operate through vicarious intergroup power. The first and most obvious of these are personal costs. Potential personal costs (e.g., likelihood of retaliation from the wrongdoers) are negatively related to the likelihood of whistleblowing (e.g., Alleyne et al., 2013; Cassematis & Wortley, 2013; Dalton & Radtke, 2013; Ellis & Arieli, 1999; Glazer & Glazer, 1989; Hersh, 2002; Kaplan & Whitecotton, 2001; Latan et al., 2016; Miceli & Near, 1984, 1985, 1988, 1992; Nitsch et al., 2005; Park & Blenkinsop, 2009; Perry, 1998; Smith & Brown, 2008; Trevino & Victor, 1992). When whistleblowing is anticipated to result in negative consequences it will be perceived as less safe. Hence,

whistleblowing costs should reduce perceived intergroup power, which in turn impedes whistleblowing.

A second important antecedent of whistleblowing is institutional support. When there is institutional support for whistleblowers, people may be encouraged to report wrongdoing they observe. For example, employees are more likely to engage in whistleblowing when an organisation provides protection against reprisals (Alleyne et al., 2016; Cho & Song, 2015; Miceli & Near, 1992; Miceli et al., 1999; Wortley et al., 2008). This is likely due to increased perceptions of safety. Similarly, institutions can support whistleblowing when they actively encourage it, because this increases its perceived effectiveness (Keenan, 1990; Keil et al., 2010). Institutional support is therefore likely to increase whistleblowing indirectly through vicarious intergroup power.

The third contextual predictor of whistleblowing is an individual's knowledge relating to reporting channels and procedures. Lack of knowledge of where to report is one reason wrongdoing remains unreported (King, 1997; Miceli & Near, 1992; Near & Miceli, 1987). Indeed, awareness of reporting channels was found to be higher among whistleblowers than non-whistleblowers (Miceli & Near, 1985); and employees' level of education on reporting procedures was positively related to whistleblowing intentions (Cho & Song, 2015). Knowledge about reporting procedures increases perceived whistleblowing efficacy (Keenan, 1990). Therefore, procedural knowledge should have an indirect effect on whistleblowing through vicarious intergroup power.

Another important consideration in the whistleblowing decision is the power of the reporting agency.[19] Employees will take into account the reporting agency's ability to address the wrongdoing (see also, Miceli & Near, 2002), including whether it has the resources to conduct an investigation (Lavena, 2014; Vadera et al., 2009). When the reporting agency is perceived to have the power and resources to deal with reports, whistleblowing is more likely to be perceived an effective strategy for change. Hence, perceptions about the reporting agency's power should be indirectly related to whistleblowing, through vicarious intergroup power.

The fifth main contextual antecedent of whistleblowing is the would-be whistleblower's concern for the wrongdoer(s). Concern for wrongdoer(s) has been cited as an inhibitor of whistleblowing in focus groups and interviews (De Graaf, 2010; Erickson et al., 2017; Milliken et al., 2003; Rennie & Crosby, 2002). Experimental studies have shown that relationship closeness and loyalty to wrongdoer(s) reduce whistleblowing intentions (Curphy et al., 1998; King, 1997; Waytz et al., 2013). In such situations, whistleblowing may be perceived as costly, in terms of potentially harming relationships the would-be whistleblower cares about (King, 1997). It would thus be perceived as less safe. Concern for the wrongdoer(s) is therefore expected to be indirectly related to whistleblowing through vicarious intergroup power.

Differentiating Intra- and Inter-group Power from other Related Constructs

We have proposed two distinct psychological constructs of power in the context of how people may respond when motivated to act against ingroup wrongdoing. For each of

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[19] We developed items for this factor after having already conducted Study 2.1 which therefore does not include it. In Studies 2.2 and 2.3 we included the power of reporting agency factor into the confirmatory factor analyses.

these constructs, we present scales designed to measure them and provide evidence of their validity. For construct validity there should be observed associations between newly developed scales and other predictor and outcome variables that they should theoretically be related to, thereby developing a nomological network (see Hinkin, 1998). For convergent and discriminant validity of narrow-focused scales—scales relevant only to specific outcomes—there should be observed associations between the scales of interest and the variables most relevant to their purpose (Furr, 2011). Therefore, construct validity for perceived intragroup and vicarious intergroup power will be demonstrated by the hypothesised indirect effects of the contextual factors described above; and convergent/discriminant validity will be evidenced if intragroup power is distinctly positively correlated with dissent, and vicarious intergroup power is distinctly positively correlated with whistleblowing.

When introducing new psychological concepts in scale development it is important to distinguish the constructs of interest from other related constructs with which they are likely to overlap (Hinkin, 1998). The constructs most likely to overlap with perceived intragroup and vicarious intergroup power are personal sense of power, self-efficacy, and workplace status.

Personal Sense of Power and General Self-Efficacy

Personal sense of power refers to one's perceived ability to influence others (Anderson et al., 2012). General self-efficacy is a trait-like construct that refers to one's perceived ability and competence to accomplish tasks in a broad range of situations (Chen, Gully, & Eden, 2001; Judge, Erez, & Bono, 1998). These constructs overlap with perceived intragroup and vicarious intergroup power. Indeed, those who perceive high self-efficacy will expect that they will get favourable outcomes in social situations (Bandura, 1986; see also Gist & Mitchell, 1992) and therefore be likely to perceive higher intragroup and vicarious intergroup power. However, our focal constructs are distinct because they specifically relate

to influencing wrongdoing behaviour and encapsulate the safety beliefs of such influence attempts as an aspect of empowerment. Furthermore, intragroup power is distinguishable from self-efficacy because the former can be impacted by extrinsic contextual factors, such as the offending group's openness to criticism. Vicarious intergroup power can be further distinguished from personal sense of power and general self-efficacy because it is a *vicarious* sense relating to one's perceived capacity to influence others *indirectly*, through the influence of a reporting agency. Therefore, it depends not on the faculties of the individual but also on the availability and power of a reporting agency. For these reasons, one may have high self-efficacy and/or high personal sense of power, believing that they can influence others, and yet perceive low intragroup power and/or low vicarious intergroup power. Hence, although personal sense of power and general self-efficacy will be positively related to the focal constructs, they should be distinct.

Workplace Status

Workplace status refers to "an employee's relative standing in an organization, as characterized by the respect, prominence, and prestige he or she possesses in the eyes of other organizational members" (Djurdjevic et al., 2017, p. 2). Workplace status is thus likely to overlap with our focal constructs. For example, those with high workplace status should have correspondingly high personal standing in their workgroup, thereby increasing perceived intragroup power. However, workplace status is generally about an individual's standing within the organisation, whereas both intragroup and vicarious intergroup power specifically regard an individual's perceived capacity to influence their group's behaviour. Employees can possess power to effect change without status. Hence, while our psychological constructs of power will be positively related to workplace status, they should demonstrate distinctive properties.

Item Generation

We followed recommendations for scale construction (Hinkin, 1998; Furr, 2011) in developing our scales. For intragroup and intergroup power, we first developed clear definitions based on theory presented in the introduction. For both of these, as well as the scales measuring the contextual factors identified as important antecedents of dissent and whistleblowing, the first author constructed the items—also using our review of the literature on voice, dissent, and whistleblowing—and the second and third authors scrutinised them and provided feedback for adjustments, screening for representativeness and redundancies. All items were meant to be simply worded and clear. Although there are arguments for and against using negatively worded items (see Hinkin, 1998), we opted to focus on simplicity for ease of comprehension, resulting in mostly positively worded items. Appendix 1 presents the items generated for each scale (intragroup power: 8 items; vicarious intergroup power: 8 items; contextual factors related to dissent: 17 items; contextual factors related to whistleblowing: 21 items) prior to item reduction in Study 2.1.[20]

Overview of Studies

We conducted three studies. We report how we determined sample size, all data exclusions, all manipulations, and all measures for every study that we present (Simmons, Nelson, & Simonsohn, 2011, 2012). Based on available resources we decided on three samples each with 300 employees. Using the sample in Study 2.1, we examined the factor structures of each scale using exploratory factor analysis (EFA) and provide the first evidence

[20] Prior to the exploratory factor analysis presented in Study 2.1, we removed 5 items related to perceived whistleblowing efficacy (marked with "*" in Appendix 1) on theoretical grounds—vicarious intergroup power encapsulates efficacy beliefs which are a subjective perception, not a contextual factor related to whistleblowing.

of convergent, discriminant, and construct validity. Using independent samples in Studies 2.2 and 2.3, we confirmed the factor structure of our scales using confirmatory factor analyses (CFA) and provide further evidence of convergent and discriminant validity, particularly in relation to other related constructs (i.e., personal sense of power, self-efficacy, and workplace status).

The full Qualtrics printouts of Studies 2.1, 2.2 and 2.3, and their corresponding SPSS data (and a .csv data file), syntax, and output files are available on the Open Science Framework website (https://osf.io/y8msz/?view_only=8e7ef645058644bb9a5bc478d19b66de).

Study 2.1: Exploratory Factor Analysis and Scale Validation

Methods

Participants and procedure. For Study 2.1 we used Amazon Mechanical Turk (MTurk) to recruit only employees who indicated that they worked as members of a workgroup in their organisations. After excluding those who failed the attention checks (n = 4) a total of 301 participants were included in analyses (169 females, 1 unspecified; median age: 31 years; age range: 18 to 63 years), mostly from North America (n = 288).

Participants were instructed to imagine a scenario in which members of their workgroup were engaged in wrongdoing, and then to briefly describe this wrongdoing. We then measured intentions for whistleblowing, intragroup dissent, and remaining silent (the order of presentation of these was randomized across participants). Next, participants completed four blocks of items: contextual factors related to dissent, contextual factors related to whistleblowing, intragroup power, and vicarious intergroup power. The presentation order of blocks, and items within each block, was randomized across participants. Before being debriefed and thanked for their time, participants could provide comments and feedback.

Measures. All items were measured on 5-point Likert scales (1 = s*trongly disagree*, 5 = *strongly agree*) with the midpoint labelled (3 = *neither agree nor disagree*).

Responses to wrongdoing. We asked participants how much they agreed with, "I would report my workgroup's wrongdoing to a reporting agency within the organisation" (whistleblowing intentions), "I would speak up against my workgroup's wrongdoing directly to the members engaged in it" (dissent intentions), and "I would remain silent" (silence). The latter was not used in any analyses and we did not measure silence in any of the other samples. We do not report this measure any further.

Power scales and contextual factors. We measured perceptions of intragroup power, vicarious intergroup power, contextual factors related to dissent, and contextual factors related to whistleblowing by asking participants how much they agreed with each of the items in Appendix 1. We used one attention check among the contextual factors related to dissent and another among the contextual factors related to whistleblowing.

Results and Discussion

One participant commented, "When asked if I could speak up 'effectively,' were you asking if I could compose a strong argument or if my argument would successfully end the behaviour?" As such, prior to the EFA results presented below, we eliminated the relevant items that may cause confusion (contextual factors related to dissent: "I could effectively speak up in the group with suggestions to stop its wrongdoing behaviour"; intragroup power: "I feel like I could effectively voice my concerns about the group's behaviour to the group directly").

EFA. Following recommendations (Furr, 2011; Hinkin, 1998), we conducted an EFA for each scale using Principal Axis Factoring (PAF) with Direct Oblimin rotations, identifying the number of factors for extraction based on the scree plot and its correspondence to theory.

Intragroup power. For intragroup power we extracted one factor explaining 64.96% of the total item variance. All 7 items loaded strongly at ≥ .72, demonstrating good reliability (Cronbach's α = .93). Table 6 presents the final intragroup power scale with items' loadings in the factor matrix.

Vicarious intergroup power. For vicarious intergroup power a 1-factor solution explained 50.17% of the total item variance. The 8 items all had factor loadings > .59 and good reliability (Cronbach's α = .88). Table 7 presents the factor matrix loadings for items in the vicarious intergroup power scale.

Contextual factors related to dissent. We extracted 3 factors for the contextual variables related to dissent, eliminating 4 items that loaded inappropriately or that cross-loaded with no clear loading on a single factor. The remaining items loaded on their respective factors with acceptable strength (≥ .41), grouped together to represent: personal standing in workgroup (4 items, Cronbach's α = .88), dissent costs (4 items, Cronbach's α = .81), and workgroup openness to dissent (4 items, Cronbach's α = .81). The final 3-factor solution explained 57.67% of the total item variance. Table 8 presents each item's factor loadings in the pattern matrix.

Contextual factors related to whistleblowing. We extracted 4 factors for the contextual variables related to whistleblowing, eliminating 1 item that cross-loaded with no clear loading on a single factor. The remaining items loaded with acceptable strength on their respective factors (all > .52). The final 4-factor solution explained 57.54% of the total item variance, with items grouped together to represent: whistleblowing costs (3 items, Cronbach's α = .80); organisational support (4 items, Cronbach's α = .82); procedural knowledge (4 items, Cronbach's α = .81); and concern for wrongdoers (4 items, Cronbach's α = .85). Table 9 presents each item's factor loadings in the pattern matrix.

For each scale, we created mean composites, reverse scoring relevant items so that higher scores would correspond with higher perceived (intragroup or vicarious intergroup) power. This means, for example, that in our results the personal costs scale (scored as lack of costs) should be positively correlated with the power scales.

Table 6

*EFA Results using Principal Axis Factoring Extracting a Single Factor: **Intra**group Power Scale (Study 2.1)*

Item	Factor loading
1. Expressing my concerns directly to the group would be effective in changing the wrongdoing behaviour	.86
2. I feel like I could change the group's behaviour internally	.84
3. I could put an end to the group's wrongdoing by voicing my disagreement directly to them	.84
4. I feel like I could safely voice my concerns about the group's behaviour to the group directly	.81
5. I would be able to persuade the group to change its behaviour	.81
6. I feel like I could express dissent within the group about its actions	.75
7. I feel like expressing disagreement about the wrongdoing directly to the group would be a reasonable option for me	.72

Note. Factor loadings in factor matrix.

Table 7

EFA Results using Principal Axis Factoring Extracting a Single Factor: Vicarious ***Inter****group Power Scale (Study 2.1)*

Item	Factor loading
1. I feel like I could safely disclose the group's behaviour to a reporting agency within my organisation	.81
2. I feel like disclosing the wrongdoing to a reporting agency would be a reasonable option for me	.76
3. Expressing my concerns to a reporting agency within my organisation would be effective in changing the wrongdoing behaviour	.72
4. I could change the group's behaviour through the influence/power of a reporting agency within my organisation	.71
5. I feel I could report the group's behaviour if I wanted to	.70
6. Reporting the wrongdoing to a reporting agency in my organisation would be effective in stopping it	.70
7. Reporting my group's behaviour would be too risky for me (Reverse scored)	-.67
8. I could disclose my group's wrongdoing to a reporting agency within the organisation without worrying that it would make my life harder	.60

Note. Factor loadings in factor matrix.

Table 8
EFA Results using Principal Axis Factoring Extracting 3 Factors with Direct Oblimin Rotation: Contextual Factors Related to Dissent (Study 2.1)

Item	Factor loading		
	Factor 1	Factor 2	Factor 3
1. I have enough power within my group to change its wrongdoing behaviour	**.87**	.05	.07
2. My status in the group means I can put an end to the wrongdoing behaviour	**.80**	-.01	.06
3. I lack the authority to stop the group's wrongdoing directly (Reverse scored)	**-.65**	.14	.06
4. I could use my leadership within the group to stop the wrongdoing	**.64**	.04	.24
5. Speaking up against the wrongdoing directly to my group would be personally costly for me (Reverse scored)	.10	**.79**	-.08
6. Other group members would pick on me for expressing disagreement with the group's wrongdoing (Reverse scored)	-.10	**.71**	.03
7. I would be labelled negatively for speaking up within the group about its wrongdoing (Reverse scored)	.02	**.63**	-.16
8. I would be fearful about speaking up against the wrongdoing directly to the group (Reverse scored)	-.28	**.52**	.06
9. In my group, expressing disagreement with its wrongdoing behaviour would be welcomed	-.01	-.07	**.75**
10. The group would welcome opinions from members critical of their behaviour	.09	.05	**.69**
11. The group would be open to my criticism of their behaviour	.14	-.10	**.58**
12. In my group, members would have the freedom to speak up about its wrongful behaviour	.03	-.29	**.41**

Note. Factor loadings in pattern matrix.

Table 9
EFA results using Principal Axis Factoring Extracting 4 Factors with Direct Oblimin Rotation: Contextual Factors Relating to Whistleblowing (Study 2.1)

Item	Factor loading			
	Factor 1	Factor 2	Factor 3	Factor 4
1. My organisation provides adequate protection for employees who report wrongdoing	**-.88**	-.06	.09	.00
2. My organisation would protect me against retaliation if I reported my group's wrongdoing	**-.73**	.08	.01	-.15
3. If I reported my group's wrongdoing my organisation would support me	**-.57**	-.01	-.15	-.06
4. My organisation actively encourages employees to report wrongdoing	**-.53**	-.03	-.17	.06
5. I would worry about the negative consequences for my group members if I were to report the wrongdoing to a reporting agency (Reverse scored)	.03	**.79**	-.09	.09
6. I would be afraid of damaging relationships I care about if I were to report my group's actions (Reverse scored)	-.10	**.78**	.06	.15
7. I would worry that if I reported the wrongdoing my group would get into trouble (Reverse scored)	.01	**.72**	.02	.08
8. It would be important to me to avoid upsetting or embarrassing members of my group (Reverse scored)	.04	**.69**	.02	-.12
9. I am knowledgeable about the whistleblowing channels I could use to report the wrongdoing within my organisation	-.06	-.05	**-.76**	.12
10. I know where I could report the wrongdoing in my organisation	-.08	.05	**-.75**	.05
11. I am uncertain about the organisational guidelines for how to report my group's behaviour (Reverse scored)	-.07	-.03	**.65**	.17
12. I know how to get the right people in my organisation involved to deal with my group's wrongdoing behaviour	-.10	-.11	**-.62**	-.02
13. If I reported my group's behaviour the group would retaliate against me (Reverse scored)	.06	.05	.00	**.69**
14. I would be viewed negatively if I disclosed my group's wrongdoing to a reporting agency (Reverse scored)	.18	.09	.07	**.56**
15. If I were to report my group's wrongdoing I would be fearful that I would receive some sort of backlash (Reverse scored)	.09	.31	.10	**.53**

Note. Factor loadings in pattern matrix.

Convergent and discriminant validity. Correlations between all variables are presented in Table 10. Ratings for intragroup power were significantly and positively correlated with dissent intentions, and ratings for vicarious intergroup power were significantly and positively related to whistleblowing intentions. Therefore, both scales had the hypothesised relationships with the variables they were supposed to be related to, evidencing convergent validity (see "narrow-focused" scales, Furr, 2011). Suggesting discriminant validity, ratings for intragroup power were only moderately correlated with ratings for vicarious intergroup power. Furthermore, although vicarious intergroup power was significantly related to dissent, intragroup power was the stronger predictor, $p < .001$.[21] After controlling for intragroup power, vicarious intergroup power was not significantly related to dissent, $r_{(298)} = .06$, $p = .31$, $CI_{95\%} = [-.06, .18]$. Similarly, vicarious intergroup power was statistically more strongly related to whistleblowing than was intragroup power, $p < .001$. After controlling for vicarious intergroup power, intragroup power was a significant but *negative* predictor of whistleblowing, $r_{(298)} = -.14$, $p = .015$, $CI_{95\%} = [-.26, -.01]$; suggesting that the lower the perceived intragroup power, the more likely an individual will be to look to whistleblowing as an alternative.

[21] Differences between correlations calculated with online calculator (Lee & Preacher, 2013).

Table 10

Pearson Correlation Coefficients [and 95% Confidence Intervals] for Study 2.1

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. WB			*B* = .02 [-.15, .19]	*B* = -.05 [-.20, .11]	*B* = -.07 [-.21, .08]	*B* = .21** [.09, .34]	*B* = .56*** [.34, .77]				
2. Dissent	.16 [.05, .27]							*B* = -.11 [-.26, .05]	*B* = .13 [-.02, .29]	*B* = -.01 [-.20, .19]	*B* = .61*** [.42, .78]
3. Org Supp	.31 [.20, .41]	.11^{x} [-.01, .22]					*B* = .34*** [.26, .42]				
4. Proc Know	.26 [.15, .36]	.13^{a} [.02, .24]	.57 [.49, .64]				*B* = .25*** [.18, .33]				
5. WB Costs	.29 [.19, .39]	.09^{x} [-.02, .20]	.51 [.43, .59]	.40 [.30, .49]			*B* = .11** [.04, .19]				
6. Concern	.36 [.26, .46]	.05^{x} [-.06, .16]	.31 [.20, .41]	.29 [.19, .39]	.61 [.53, .67]		*B* = .12*** [.06, .19]				
7. Intergroup	.46 [.37, .55]	.20 [.09, .31]	.68 [.62, .74]	.62 [.54, .68]	.57 [.49, .64]	.47 [.37, .55]					
8. Personal Stand	.05^{x} [-.06, .16]	.35 [.24, .44]	.23 [.12, .33]	.26 [.15, .36]	.33 [.23, .43]	.12^{a} [.01, .23]	.25 [.14, .35]				*B* = .36*** [.27, .44]
9. Dissent Costs	.13^{a} [.02, .24]	.36 [.26, .46]	.30 [.19, .40]	.24 [.13, .34]	.57 [.49, .64]	.34 [.23, .43]	.37 [.27, .46]	.58 [.50, .65]			*B* = .10* [.004, .19]
10. Group Open	-.01^{x} [-.12, .10]	.39 [.29, .49]	.29 [.19, .39]	.20 [.08, .30]	.39 [.29, .48]	.13^{a} [.02, .24]	.28 [.18, .38]	.66 [.59, .72]	.62 [.55, .69]		*B* = .46*** [.35, .57]
11. Intragroup	.02^{x} [-.10, .13]	.52 [.44, .60]	.24 [.13, .34]	.25 [.14, .35]	.28 [.18, .39]	.01^{x} [-.10, .13]	.29 [.19, .39]	.72 [.66, .77]	.58 [.50, .65]	.74 [.68, .79]	
M (SD)	*4.09 (1.05)*	*3.91 (1.11)*	*3.71 (0.89)*	*3.93 (0.88)*	*2.97 (1.05)*	*2.92 (1.07)*	*3.88 (0.77)*	*2.90 (1.05)*	*3.02 (0.96)*	*3.00 (0.90)*	*3.29 (0.97)*
Range	***1 - 5***	***1 - 5***	***1 - 5***	***1.25 - 5***	***1 - 5***	***1 - 5***	***1.13 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***

Note. N = 301. WB = whistleblowing intentions. Org Supp = organisational support. Proc Know = procedural knowledge. WB Costs = whistleblowing costs. Concern = concern for wrongdoers. Intergroup = vicarious intergroup power. Personal Stand = personal standing in workgroup. Group Open = workgroup openness to dissent. Intragroup = intragroup power. All unmarked correlations are significant at $p \leq .001$. ^{a}: $p \leq .05$. ^{x}: $p > .05$.

Row 1 (Columns 3-7) shows unstandardised *B* coefficient [and $CI_{95\%}$] for whistleblowing regressed on vicarious intergroup power and the contextual factors related to whistleblowing. After controlling for the contextual factors (entered in Step 1), intergroup power entered in Step 2 explained an additional and significant 6.5% of the variance in whistleblowing intentions, $F_{change}(1, 295) = 25.50$, $p < .001$.

Nomological networks. We analysed the hypothesised indirect effects of the contextual factors on dissent and whistleblowing through perceived intragroup and vicarious intergroup power, respectively, using Model 4 of the PROCESS macro by Hayes (2013) with 5000 bootstrap replications, and 95% confidence intervals. Each of the contextual factors related to dissent (except for dissent costs) had a unique significant indirect relationship with dissent intentions, through perceived intragroup power (see Table 11); and each of the contextual factors related to whistleblowing had a unique significant indirect relationship with whistleblowing intentions, through vicarious intergroup power (see Table 12).[22] Construct validity based on the hypothesised nomological networks was therefore satisfied.

Further analyses. The perceived intragroup power scale was a stronger predictor of dissent intentions than any of the power-related contextual factors identified in the literature as important antecedents of dissent (*p*s < .001). Likewise, vicarious intergroup power was more strongly related to whistleblowing intentions than any of the power-related contextual factors (*p*s < .001) except concern for others ($p = .062$).

Taken together, Study 2.1 established the factor structure of all scales of interest and provided the first evidence for convergent and discriminant validity, and construct validity based on nomological networks for the intragroup and vicarious intergroup power scales. The results corroborate our theorising that the contextual factors identified in the literature as important antecedents of dissent may operate through perceived intragroup power, and the contextual factors related to whistleblowing may operate through vicarious intergroup power.

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[22] When we did not include the other contextual factors related to dissent as control variables, dissent costs had a significant indirect relationship with dissent through perceived intragroup power, $B = 0.32$, $SE = 0.05$, $CI_{95\%} = [0.23, 0.42]$.

Table 11

*Indirect Effects of Contextual Factors on Dissent via **Intra**group Power*

	B	SE	$CI_{95\%}$
Study 2.1			
Total effect of model	R = .43, F(3,297) = 22.24, p < .001		
Personal standing	.22	.05	[.13, .33]
Dissent costs	.06	.04	[-.02, .14]
Group openness	.28	.06	[.18, .42]
Study 2.2			
Total effect of model	R = .42, F(3,300) = 21.46, p < .001		
Personal standing	.26	.05	[.17, .38]
Dissent costs	.07	.03	[.01, .14]
Group openness	.16	.04	[.09, .25]
Study 2.3			
Personal standing	.53	.11	[.33, .76]
Dissent costs	.08	.07	[-.05, .22]
Group openness	.55	.13	[.33, .82]

Note. In the PROCESS model, dissent was entered as the outcome and intragroup power as the mediator. Each contextual factor was in turn used as the predictor while the remaining contextual factors were entered as control variables. With dichotomous variables (Study 2.3), PROCESS does not provide total effect of model.

Table 12

*Indirect Effects of Contextual Factors on Whistleblowing via Vicarious **Inter**group Power*

	B	*SE*	$CI_{95\%}$
Study 2.1			
Total effect of model	R = .42, F(4,296) = 16.01, p < .001		
Whistleblowing costs	.06	.03	[.02, .13]
Institutional support	.19	.05	[.11, .30]
Procedural knowledge	.14	.04	[.08, .23]
Concern for group members	.07	.03	[.03, .13]
Study 2.2			
Total effect of model	R = .47, F(5,298) = 16.47, p < .001		
Whistleblowing costs	.10	.03	[.05, .17]
Institutional support	.24	.07	[.12, .39]
Procedural knowledge	.04	.03	[-.004, .11]
Reporting agency's power	.18	.05	[.10, .30]
Concern for group members	.04	.02	[.001, .09]
Study 2.3			
Whistleblowing costs	.28	.09	[.14, .47]
Institutional support	.49	.13	[.26, .78]
Procedural knowledge	.26	.09	[.11, .47]
Reporting agency's power	.19	.09	[.05, .41]
Concern for group members	.01	.06	[-.12, .13]

Note. In the PROCESS model, whistleblowing was entered as the outcome and intergroup power as the mediator. Each contextual factor was in turn used as the predictor while the remaining contextual factors were entered as control variables. With dichotomous variables (Study 2.3), PROCESS does not provide total effect of model.

Studies 2.2 and 2.3: Confirmatory Factor Analysis and Scale Validation

In Studies 2.2 and 2.3 we used similar methods, procedures, and measures. We therefore report these together in the interests of economy.

In Study 2.2 we surveyed a new sample of employees and conducted CFA to confirm the factor structures established in Study 2.1. We also added perceived power of the reporting agency to the contextual factors related to whistleblowing. We included measures of three related psychological constructs for further validation of our intragroup and vicarious intergroup power scales. For convergent validity, we expected that the focal constructs would be positively correlated with personal sense of power, general self-efficacy, and workplace status. For discriminant validity, we expected that when the focal constructs were alternately modelled with these related constructs, the two-factor models would fit the data better than a one-factor model. In addition, we used the Fornell and Larker (1981) test for discriminant validity, where the average variance extracted (AVE) by the latent construct from its items must be greater than the squared correlation between the construct and other related constructs (see also Djurdjevic et al., 2017).

In Study 2.3 we replicated the findings from Study 2.2 using self-reported behavioural measures for dissent and whistleblowing. We aimed to measure and statistically control for common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) by including a "marker variable" that is theoretically unrelated to the variables of interest (Lindell & Whitney, 2001; Podsakoff, MacKenzie, & Podsakoff, 2012) and including it in a zero-constrained common latent factor technique (see Gaskin, 2017). However, this resulted in model identification problems in Amos. We therefore proceed with common method bias as a potential limitation.

Methods

Participants and procedure. For Study 2.2 we used MTurk to recruit only employees who indicated being employed as members of a workgroup in their organisations—participants from Study 2.1 were disallowed from participating in Study 2.2. After excluding those who failed the attention checks (n = 14) there were a total of 304 participants for analyses (166 females, 2 unspecified; median age: 31 years; age range: 18 to 67 years), mostly from North America (n = 300). Participants completed the personal sense of power, general self-efficacy, and workplace status scales, in randomised order. Next, they were instructed to imagine and briefly describe a scenario in which members of their workgroup were engaged in wrongdoing. Participants then rated how likely they would be to engage in whistleblowing and intragroup dissent. In randomised order, participants completed each of the scales for the contextual variables, and intragroup and intergroup power. Finally, before being debriefed and thanked for their time, participants could provide comments and feedback.

For Study 2.3 we used Prolific Academic's inclusion criteria to recruit only employees who worked as members of a workgroup in their organisations, and only those who had observed wrongdoing committed by members of their workgroup within the past 12 months. After excluding participants who failed the attention checks (n = 41) there were a total of 300 employees (160 females, 1 unspecified; median age: 29 years; age range: 18 to 61 years). The majority were from United Kingdom (n = 165), North America/Canada (n = 84), and Europe (n = 47). Participants were instructed to nominate the most serious wrongdoing in the past 12 months committed by their workgroup that they wanted to put a stop to. They were then asked whether they had engaged in whistleblowing and intragroup dissent, before responding to each scale of the contextual variables, intragroup power, vicarious intergroup power, personal sense of power, general self-efficacy, workplace status,

and the marker variable (exploratory shopper scale). The order of presentation of each scale was randomised across participants. Participants were then thanked and debriefed.

Measures. Unless otherwise noted, all measures were used in both studies and all items were measured on 5-point Likert scales (1 = strongly *disagree*, 5 = *strongly agree*) with the midpoint labelled (3 = *neither agree nor disagree*).

Responses to wrongdoing. For Study 2.2 we measured dissent and whistleblowing with the same items as in Study 2.1. For Study 2.3, we used yes/no response options asking participants whether they had engaged in dissent, "Did you speak up against your workgroup's wrongdoing directly to the members engaged in it?", and whistleblowing, "Did you report your workgroup's wrongdoing to a reporting agency within the organisation?".

Related constructs. We used Anderson et al.'s (2012) 8-item personal sense of power scale (Cronbach's α: Study 2.2 = .83, Study 2.3 = .88); Chen et al.'s (2001) 8-item general self-efficacy scale (Cronbach's α: Study 2.2 = .88, Study 2.3 = .91); and Djurdjevic et al.'s (2017) 5-item workplace status scale (Cronbach's α: Study 2.2 = .95, Study 2.3 = .96). Workplace status was measured using 7-point Likert scales (1 = *strongly disagree*, 7 = *strongly agree*) with the midpoint labelled (4 = *neither agree nor disagree*).[23]

Exploratory shopper scale. In Study 2.3 only, we used Raju's (1980) 7-item exploratory shopper scale as the marker variable (Cronbach's α = .83). This was also measured using 7-point Likert scales.

Power scales and contextual factors. We measured intragroup power (7 items in Table 13), vicarious intergroup power (8 items in Table 14), contextual factors related to

[23] In Study 2.2, three participants had missing data for the workplace status scale (1 participant each for items 1, 2, and 5). We used the mean of their responses to the other 4 items of the workplace status scale in place of their missing data (mean replacement).

dissent (4 items each for personal standing, dissent costs, and group openness; see Table 15), and contextual factors related to whistleblowing (3 items for whistleblowing costs, and 4 items each for institutional support, procedural knowledge, concern for the wrongdoers, and power of the reporting agency; see Table 16). There was one attention check among the personal standing items and another among the institutional support items. For Study 2.3 we adapted the wording for all of these items to be for past tense (see Appendix 2). The presentation order of each item in each block was randomised across participants.

Results and Discussion

Negatively-worded items were reverse-scored so that higher scores on each scale correspond with higher perceived (intragroup and intergroup) power. Therefore, as in Study 2.1, the personal costs scales (scored as lack of costs) should be positively correlated with the power scales.

CFA. We examined the factor structure of our scales and their fit indices using CFA in Amos 23. For each model we constrained factors' variance to 1. Following recommendations for a 2-index presentation strategy (Hu & Bentler, 1999) we examined our hypothesised factor structure using the comparative fit index (CFI; cut-off close to .95) and standard root-mean-square residual (SRMR; cut-off close to .08) as indicators for model fit (see also Djurdjevic et al., 2017).

Intragroup power. Our hypothesised 1-factor structure for intragroup power fit the data well (Study 2.2: *CFI* = .95, *SRMR* = .04; Study 2.3: *CFI* = .95, *SRMR* = .04). All items had strong standardised factor loadings (Study 2.2: all ≥ .69; Study 2.3: all ≥ .72; see Table 13), and the scale showed good reliability (Study 2.2, α = .93; Study 2.3, α = .93).

Vicarious intergroup power. Our hypothesised 1-factor structure for vicarious intergroup power fit the data well in Study 2.2 (*CFI* = .94, *SRMR* = .04) and, once error terms for items 1 and 6 were correlated, fit statistics were close to cut-offs in Study 2.3 (*CFI* = .89,

SRMR = .09). Correlating the error terms made sense on theoretical grounds due to the similar wording of the items. The items had good standardised factor loadings (Study 2.2: all ≥ .63; Study 2.3: all ≥ .56; see Table 14), and the scale showed good reliability (Study 2.2, α = .89; Study 2.3, α = .87).[24]

Contextual factors related to dissent. For the contextual factors related to dissent, a 3-factor solution fit the data well (Study 2.2: *CFI* = .96, *SRMR* = .06; Study 2.3: *CFI* = .97, *SRMR* = .05). All items loaded strongly on their respective factors (Study 2.2: all ≥ .62; Study 2.3: all ≥ .69; see Table 15) and each scale showed good reliability (see Table 15).

Contextual factors related to whistleblowing. For the contextual factors related to whistleblowing, a 5-factor solution fit the data well (Study 2.2: *CFI* = .95, *SRMR* = .06; Study 2.3: *CFI* = .96, *SRMR* = .05). All items loaded strongly on their respective factors (Study 2.2: all ≥ .51; Study 2.3: all ≥ .54; see Table 16) and each scale showed good reliability (see Table 16).

As with Study 2.1, we created mean composite scores for each scale.

[24] For both intragroup and vicarious intergroup power scales we also tested a 2-factor structure which fit the data well and showed good psychometric properties (see supplementary materials on OSF link https://osf.io/y8msz/?view_only=8e7ef645058644bb9a5bc478d19b66de).

Table 13

*Standardised Regression Weights for Perceived **Intra**group Power Items in Studies 2.2 and 2.3*

Item	Standardized Regression Weights	
	Study 2.2	Study 2.3
1. I feel like I could express dissent within the group about its actions	.69	.75
2. Expressing my concerns directly to the group would be effective in changing the wrongdoing behaviour	.88	.85
3. I feel like expressing disagreement about the wrongdoing directly to the group would be a reasonable option for me	.76	.72
4. I could put an end to the group's wrongdoing by voicing my disagreement directly to them	.88	.84
5. I would be able to persuade the group to change its behaviour	.88	.86
6. I feel like I could change the group's behaviour internally	.85	.83
7. I feel like I could safely voice my concerns about the group's behaviour to the group directly	.76	.77

Note. All regression weights are significant at $p \leq .001$.

Table 14

*Standardised Regression Weights for Vicarious **Inter**group Power Items in Studies 2.2 and 2.3*

Item	Standardized Regression Weights	
	Study 2.2	Study 2.3
1. Reporting the wrongdoing to a reporting agency in my organisation would be effective in stopping it	.75	.57
2. I could change the group's behaviour through the influence/power of a reporting agency within my organisation	.73	.58
3. I feel I could report the group's behaviour if I wanted to	.70	.69
4. I feel like disclosing the wrongdoing to a reporting agency would be a reasonable option for me	.70	.73
5. I feel like I could safely disclose the group's behaviour to a reporting agency within my organisation	.84	.85
6. Expressing my concerns to a reporting agency within my organisation would be effective in changing the wrongdoing behaviour	.73	.56
7. I could disclose my group's wrongdoing to a reporting agency within the organisation without worrying that it would make my life harder	.65	.66
8. Reporting my group's behaviour would be too risky for me (Reverse scored)	.63	.60

Note. All regression weights are significant at $p \leq .001$.

Table 15
Standardised Regression Weights for Contextual Factors related to Dissent (Studies 2.2 and 2.3)

Items of each scale	Standardized Regression Weights	
	Study 2.2	Study 2.3
Personal standing	α = .89	α = .89
I lack the authority to stop the group's wrongdoing directly (Reverse scored)	.62	.69
I could use my leadership within the group to stop the wrongdoing	.86	.82
I have enough power within my group to change its wrongdoing behaviour	.92	.90
My status in the group means I can put an end to the wrongdoing behaviour	.92	.85
Dissent costs	α = .86	α = .87
Other group members would pick on me for expressing disagreement with the group's wrongdoing (Reverse scored)	.75	.77
Speaking up against the wrongdoing directly to my group would be personally costly for me (Reverse scored)	.84	.76
I would be labelled negatively for speaking up within the group about its wrongdoing (Reverse scored)	.84	.84
I would be fearful about speaking up against the wrongdoing directly to the group (Reverse scored)	.71	.77
Group openness	α = .90	α = .86
The group would be open to my criticism of their behaviour	.88	.82
The group would welcome opinions from members critical of their behaviour	.88	.80
In my group, members would have the freedom to speak up about its wrongful behaviour	.70	.69
In my group, expressing disagreement with its wrongdoing behaviour would be welcomed	.86	.80

Note. All regression weights are significant at $p \leq .001$. The displayed wording is from Study 2.2. In Study 2.3, the wording for each item was adapted to refer to recalled past behaviour (see Appendix 2).

Table 16
Standardised Regression Weights for Contextual Factors related to Whistleblowing (Studies 2.2 and 2.3)

Items of each scale	Standardized Regression Weights	
	Study 2.2	Study 2.3
Whistleblowing costs	α = .86	α = .88
I would be viewed negatively if I disclosed my group's wrongdoing to a reporting agency (Reverse scored)	.74	.82
If I reported my group's behaviour the group would retaliate against me (Reverse scored)	.85	.81
If I were to report my group's wrongdoing I would be fearful that I would receive some sort of backlash (Reverse scored)	.88	.90
Institutional support	α = .87	α = .87
My organisation actively encourages employees to report wrongdoing	.58	.64
If I reported my group's wrongdoing my organisation would support me	.86	.79
My organisation would protect me against retaliation if I reported my group's wrongdoing	.89	.88
My organisation provides adequate protection for employees who report wrongdoing	.87	.85
Procedural knowledge	α = .80	α = .81
I know how to get the right people in my organisation involved to deal with my group's wrongdoing behaviour	.77	.84
I am knowledgeable about the whistleblowing channels I could use to report the wrongdoing within my organisation	.77	.75
I know where I could report the wrongdoing in my organisation	.88	.75
I am uncertain about the organisational guidelines for how to report my group's behaviour (Reverse scored)	.51	.54
Reporting agency's power	α = .88	α = .84
If I reported it, the reporting agency would have the authority to deal with my workgroup's wrongdoing	.85	.82
If I reported it, the reporting agency in my organisation would have the power to address my workgroup's wrongdoing behaviour	.91	.86
If I reported my workgroup's wrongdoing, the reporting agency in my organisation would have the resources to conduct an investigation	.78	.74
Concern for wrongdoers	α = .87	α = .83
It would be important to me to avoid upsetting or embarrassing members of my group (Reverse scored)	.71	.60
I would worry that if I reported the wrongdoing my group would get into trouble (Reverse scored)	.83	.73
I would worry about the negative consequences for my group members if I were to report the wrongdoing to a reporting agency (Reverse scored)	.82	.78
I would be afraid of damaging relationships I care about if I were to report my group's actions (Reverse scored)	.83	.84

Note. All regression weights are significant at $p \leq .001$. The displayed wording is from Study 2.2. In Study 2.3, the wording for each item was adapted to refer to recalled past behaviour (see Appendix 2).

Convergent and discriminant validity. Correlations between all variables are presented in Tables 17 (Study 2.2) and 18 (Study 2.3). Ratings for perceived intragroup power were significantly and positively correlated with dissent intentions in Study 2.2, and behaviour in Study 2.3. Ratings for vicarious intergroup power were significantly and positively related to whistleblowing intentions in Study 2.2, and behaviour in Study 2.3. Both scales were therefore related to the outcomes most relevant to them. Moreover, although vicarious intergroup power was significantly related to dissent, the correlation between intragroup power and dissent was significantly stronger (Study 2.2: $p < .001$; Study 2.3: $p = .003$). And, after controlling for intragroup power, vicarious intergroup power was only weakly related to dissent in Study 2.2, $r_{(301)} = .14$, $p = .014$, $CI_{95\%} = [.01, .26]$; and not significantly related to dissent in Study 2.3, $r_{(297)} = .10$, $p = .101$, $CI_{95\%} = [-.02, .21]$. Similarly, although intragroup power was significantly related to whistleblowing, vicarious intergroup power was a statistically stronger predictor (ps < .001). And, after controlling for vicarious intergroup power, intragroup power was significantly *negatively* related to whistleblowing in Study 2.2 ($r_{(301)} = -.11$, $p = .049$, $CI_{95\%} = [-.22, -.01]$) and Study 2.3 ($r_{(297)} = -.21$, $p < .001$, $CI_{95\%} = [-.31, -.11]$). Further demonstrating convergent validity, our focal constructs were positively related to personal sense of power, general self-efficacy, and workplace status.

To assess discriminant validity of the intragroup and vicarious intergroup power scales, we alternately modelled them with each of the related constructs as 1-factor and 2-factor models. The fit statistics and chi-square difference tests showed that the 2-factor models fit the data significantly better than the 1-factor models (intragroup power: Table 19; vicarious intergroup power: Table 20). Moreover, in every instance the AVE of intragroup power (Study 2.2 = .67; Study 2.3 = .65) was greater than the square of its correlations with the related constructs (highest squared correlation = .29, with workplace status in Study 2.3).

Likewise, the AVE for vicarious intergroup power (Study 2.2 = .52; Study 2.3 = .44) was greater than the square of its correlation with the related constructs (highest squared correlation = .26, with workplace status in Study 2.3). These results provide strong evidence of discriminant validity for the perceived intragroup power and vicarious intergroup power scales and corroborate our contention that the two constructs are distinct from the other related constructs, and from each other.

Table 17
Pearson Correlation Coefficients and Regression Coefficients [with 95% Confidence Intervals] for Study 2.2

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. WB			*B* = .17 [-.003,.35]	*B* = -.06 [-.21,.09]	*B* = -.17** [-.30,-.05]	*B* = .18*** [.07,.28]	*B* = -.01 [-.20,.19]	*B* = .67*** [.43,.92]							
2. Dissent	.33 [.23, .43]								*B* = -.09 [-.23,.06]	*B* = .10 [-.03,.22]	*B* = .05 [-.10,.19]	*B* = .55*** [.37,.73]			
3. Org Supp	.41 [.31, .50]	.31 [.21, .41]						*B* = .36*** [.29,.43]							
4. Proc Know	.24 [.13, .35]	.22 [.11, .32]	.49 [.40, .57]					*B* = .06 [-.004,.13]							
5. WB Costs	.22 [.11, .33]	.20 [.09, .31]	.52 [.43, .59]	.29 [.19, .39]				*B* = .16*** [.10,.21]							
6. Concern	.25 [.14, .35]	.06^{x} [-.05, .17]	.15^{a} [.04, .26]	.19 [.08, .30]	.38 [.28, .47]			*B* = .05* [.004,.10]							
7. Agency Pow	.30 [.20, .40]	.17^{a} [.06, .28]	.53 [.44, .61]	.52 [.44, .60]	.27 [.16, .37]	.11^{x} [-.004, .22]		*B* = .27*** [.19,.36]							
8. Intergroup	.50 [.41, .58]	.33 [.22, .42]	.75 [.70, .80]	.51 [.42, .59]	.58 [.50, .65]	.27 [.16, .37]	.61 [.53, .67]								
9. Pers Stand	.17^{a} [.05, .27]	.34 [.24, .44]	.30 [.19, .40]	.25 [.14, .35]	.28 [.17, .38]	-.05^{x} [-.16, .06]	.18^{a} [.07, .28]	.35 [.25, .45]				*B* = .48*** [.40,.55]			
10. Diss Costs	.16^{a} [.04, .26]	.33 [.22, .42]	.48 [.38, .56]	.30 [.20, .40]	.73 [.67, .77]	.35 [.24, .44]	.29 [.18, .39]	.51 [.42, .59]	.43 [.33, .52]			*B* = .12** [.04,.20]			
11. Group Open	.13^{b} [.01, .24]	.36 [.25, .45]	.40 [.30, .49]	.21 [.10, .31]	.43 [.33, .51]	.02^{x} [-.09, .13]	.23 [.12, .34]	.40 [.30, .49]	.52 [.43, .59]	.50 [.41, .58]		*B* = .28*** [.20,.37]			
12. Intragroup	.13^{b} [.01, .24]	.51 [.42, .58]	.38 [.28, .47]	.23 [.12, .33]	.31 [.21, .41]	-0.05^{x} [-.16, .07]	.23 [.12, .34]	.43 [.34, .52]	.74 [.68, .78]	.50 [.41, .58]	.63 [.56, .69]				
13. PSP Scale	.12^{b} [.003, .23]	.15^{a} [.04, .26]	.28 [.17, .38]	.34 [.24, .44]	.27 [.17, .38]	.14^{b} [.03, .25]	.21 [.10, .32]	.34 [.24, .44]	.33 [.22, .42]	.34 [.24, .44]	.12^{b} [.01, .23]	.29 [.18, .39]			
14. Self-Eff	.27 [.16, .37]	.23 [.12, .34]	.38 [.28, .47]	.34 [.24, .44]	.27 [.16, .37]	.18 [.07, .29]	.28 [.17, .38]	.40 [.30, .49]	.24 [.13, .34]	.33 [.23, .43]	.19 [.08, .30]	.23 [.12, .34]	.41 [.31, .50]		

15. WP Status	.16[a] [.04, .26]	.20 [.09, .31]	.19 [.08, .30]	.22 [.11, .33]	.15[b] [.03, .25]	-.04[x] [-.16, .07]	.09[x] [-.03, .20]	.25 [.14, .35]	.55 [.46, .62]	.22 [.11, .32]	.28 [.17, .38]	.38 [.28, .47]	.34 [.24, .44]	.31 [.21, .41]	
M(SD)	*4.09(1.09)*	*4.06(1.12)*	*3.74(0.95)*	*3.90(0.89)*	*2.96(1.11)*	*3.07(1.09)*	*4.36(0.73)*	*3.85(0.76)*	*2.96(1.12)*	*3.24(1.05)*	*3.15(1.03)*	*3.31(1.00)*	*3.60(0.62)*	*4.17(0.50)*	*4.05(1.47)*
Range	***1 - 5***	***1 - 5***	***1 - 5***	***1.25 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1.13 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1.75 - 5***	***2.5 - 5***	***1 - 7***

Note. N = 304. WB = whistleblowing intentions. Org Supp = organisational support. Proc Know = procedural knowledge. WB Costs = whistleblowing costs. Concern = concern for wrongdoers. Agency Pow = reporting agency's power. Intergroup = vicarious intergroup power. Pers Stand = personal standing in workgroup. Diss Costs = dissent costs. Group Open = workgroup openness to dissent. Intragroup = intragroup power. PSP Scale = personal sense of power scale. Self-Eff = self-efficacy. WP Status = workplace status. All unmarked correlations are significant at $p \leq .001$. [a]: $p \leq .01$. [b]: $p \leq .05$. [x]: $p > .05$.

Row 1 (Columns 3-8) shows unstandardised *B* coefficient [and $CI_{95\%}$] for whistleblowing regressed on vicarious intergroup power and the contextual factors related to whistleblowing. After controlling for the contextual factors (entered in Step 1), intergroup power entered in Step 2 explained an additional and significant 6.5% of the variance in whistleblowing intentions, $F_{change}(1, 295) = 25.50$, $p < .001$.

Row 2 (Columns 9-12) shows unstandardised *B* coefficient [and $CI_{95\%}$] for dissent regressed on intragroup power and the contextual factors related to dissent. After controlling for the contextual factors (entered in Step 1), intragroup power entered in Step 2 explained an additional and significant 9.9% of the variance in dissent intentions, $F_{change}(1, 296) = 41.03$, $p < .001$.

Column 8 (Rows 3-7) and Column 12 (Rows 9-11) show the unstandardised *B* coefficient [and $CI_{95\%}$] when intragroup power and vicarious intergroup power, respectively, were regressed on the relevant contextual factors. For *B* coefficients: $*p < .05$, $**p < .01$, $***p < .005$

Table 18

Pearson Correlation Coefficients and Regression Coefficients [with 95% Confidence Intervals] for Study 2.3

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. WB			*B* = .03 [-.04,.10]	*B* = .05 [-.02,.12]	*B* = -.01 [-.07,.05]	*B* = .06* [.01,.12]	*B* = -.01 [-.08,.06]	*B* = .24*** [.15,.34]								
2. Dissent	.21 [.10, .31]								*B* = -.05 [-.11,.02]	*B* = .04 [-.01,.10]	*B* = -.01 [-.08,.05]	*B* = .24*** [.17,.32]				
3. Org Supp	.39 [.28, .48]	.20 [.09, .31]						*B* = .34*** [.27,.42]								
4. Proc Know	.36 [.26, .46]	.24 [.13, .34]	.47 [.38, .56]					*B* = .18*** [.10,.27]								
5. WB Costs	.33 [.22, .43]	.18^{a} [.07, .29]	.52 [.43, .60]	.34 [.24, .44]				*B* = .20*** [.12,.27]								
6. Concern	.26 [.15, .36]	.12^{b} [.01, .23]	.17^{a} [.05, .27]	.28 [.18, .39]	.51 [.43, .59]			*B* = .004 [-.07,.07]								
7. Agency Pow	.25 [14, .35]	.20 [.09, .31]	.42 [.33, .51]	.54 [.45, .61]	.16^{a} [.05, .27]	.07^{x} [-.05, .18]		*B* = .13** [.05,.22]								
8. Intergroup	.51 [.42, .59]	.33 [.23, .43]	.71 [.64, .76]	.56 [.48, .64]	.57 [.49, .64]	.28 [.17, .38]	.46 [.37, .55]									
9. Pers Stand	.16^{a} [.05, .27]	.28 [.17, .38]	.49 [.39, .57]	.32 [.22, .42]	.43 [.34, .52]	.19 [.08, .30]	.22 [.11, .32]	.54 [.45, .61]				*B* = .40*** [.32,.48]				
10. Diss Costs	.24 [.13, .35]	.28 [.18, .39]	.41 [.31, .50]	.41 [.31, .50]	.70 [.64, .76]	.46 [.37, .55]	.16^{a} [.05, .27]	.55 [.46, .62]	.51 [.42, .59]			*B* = .06 [-.02,.14]				
11. Grp Open	.26 [.15, .36]	.31 [.21, .41]	.50 [.41, .58]	.32 [.22, .42]	.37 [.27, .46]	.09^{x} [-.02, .21]	.27 [.16, .37]	.56 [.48, .63]	.50 [.40, .58]	.48 [.38, .56]		*B* = .41*** [.33,.50]				
12. Intragroup	.13^{b} [.01, .24]	.48 [.39, .56]	.47 [.38, .56]	.28 [.17, .38]	.36 [.26, .46]	.08^{x} [-.04, .19]	.24 [.13, .35]	.55 [.46, .62]	.67 [.61, .73]	.48 [.39, .57]	.66 [.59, .72]					
13. PSP Scale	.18^{a} [.07, .29]	.18^{a} [.07, .29]	.34 [.23, .43]	.29 [.18, .39]	.33 [.23, .43]	.14^{b} [.03, .25]	.27 [.16, .37]	.44 [.34, .53]	.41 [.31, .50]	.47 [.38, .55]	.28 [.17, .38]	.35 [.25, .45]				
14. Self-Eff	.21 [.10, .32]	.19 [.08, .30]	.28 [.17, .38]	.33 [.23, .43]	.16 [.05, .27]	.11^{x} [-002, .22]	.32 [.22, .42]	.33 [.22, .43]	.24 [.13, .34]	.27 [.17, .38]	.28 [.17, .38]	.27 [.16, .37]	.46 [.36, .54]			

15. WP Status	.30 [.19, .40]	.26 [.15, .36]	.48 [.38, .56]	.37 [.27, .47]	.35 [.24, .44]	.15[a] [.04, .26]	.27 [.16, .37]	.51 [.42, .59]	.60 [.53, .67]	.38 [.28, .47]	.44 [.34, .52]	.54 [.46, .62]	.54 [.45, .61]	.45 [.36, .54]		
16. Marker	.09[x] [-.03, .20]	.08[x] [-.04, .19]	.29 [.18, .39]	.22 [.11, .33]	.08[x] [-.04, .19]	.03[x] [-.09, .14]	.27 [.16, .37]	.25 [.14, .35]	.20 [.09, .31]	.15[b] [.03, .25]	.28 [.17, .38]	.26 [.15, .36]	.19 [.07, .29]	.17[a] [.06, .28]	.20 [.09, .30]	
M (SD)	***54.7%Yes***	***66.7%Yes***	*3.42(1.01)*	*3.63(0.93)*	*2.70(1.12)*	*2.80(1.02)*	*3.98(0.85)*	*3.33(0.84)*	*2.79(1.10)*	*2.90(1.09)*	*2.99(1.00)*	*3.10(1.00)*	*3.43(0.75)*	*4.04(0.63)*	*3.99(1.59)*	*4.52(1.22)*
Range			***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1 - 5***	***1.13 - 5***	***1 - 5***	***1 - 7***	***1 - 7***

Note. N = 300. WB = whistleblowing intentions. Org Supp = organisational support. Proc Know = procedural knowledge. WB Costs = whistleblowing costs. Concern = concern for wrongdoers. Agency Pow = reporting agency's power. Intergroup = vicarious intergroup power. Pers Stand = personal standing in workgroup. Diss Costs = dissent costs. Grp Open = workgroup openness to dissent. Intragroup = intragroup power. PSP Scale = personal sense of power scale. Self-Eff = self-efficacy. WP Status = workplace status. Marker = marker variable (exploratory shopper scale). All unmarked correlations are significant at $p \leq .001$. [a]: $p \leq .01$. [b]: $p \leq .05$. [x]: $p > .05$.

Row 1 (Columns 3-8) shows unstandardised *B* coefficient [and $CI_{95\%}$] for whistleblowing regressed on vicarious intergroup power and the contextual factors related to whistleblowing. After controlling for the contextual factors (entered in Step 1), intergroup power entered in Step 2 explained an additional and significant 6.3% variance in whistleblowing, $F_{change}(1, 293) = 25.69$, $p < .001$.

Row 2 (Columns 9-12) shows unstandardised *B* coefficient [and $CI_{95\%}$] for dissent regressed on intragroup power and the contextual factors related to dissent. After controlling for the contextual factors (entered in Step 1), intragroup power entered in Step 2 explained an additional and significant 10.8% variance in dissent, $F_{change}(1, 295) = 41.65$, $p < .001$.

Column 8 (Rows 3-7) and Column 12 (Rows 9-11) show the unstandardised *B* coefficient [and $CI_{95\%}$] when intragroup power and vicarious intergroup power, respectively, were regressed on the relevant contextual factors.

For *B* coefficients: *$p < .05$, **$p < .01$, ***$p < .005$

Table 19
*Fit Statistics and Results of χ^2 Difference Tests for **Intra**group Power Modelled with other Related Constructs (Studies 2.2 and 2.3)*

	Comparison of 1- vs 2-factor models								
	One-factor model				Two-factor model				Difference
Measurement models	χ^2	*df*	CFI	SRMR	χ^2	*df*	CFI	SRMR	$\Delta\chi^2$
Intragroup & Intergroup									
Study 2.2	1126.33***	90	.65	.18	312.33***	89	.92	.06	814.00***
Study 2.3	711.50***	89	.77	.12	311.17***	88	.92	.07	400.32***
Intragroup & PSP									
Study 2.2	761.45***	87	.74	.16	244.00***	86	.94	.07	517.45***
Study 2.3	1077.76***	90	.63	.19	317.71***	89	.91	.07	320.42***
Intragroup & Self-efficacy									
Study 2.2	1083.17***	90	.63	.21	199.96***	89	.96	.04	883.21***
Study 2.3	1327.77***	90	.56	.23	213.33***	89	.96	.04	1114.44***
Intragroup & Workplace status									
Study 2.2	1543.03***	54	.55	.22	168.31***	53	.97	.04	1374.71***
Study 2.3	1105.02***	54	.68	.19	165.25***	53	.97	.04	939.76***

Note. Intragroup = intragroup power. Intergroup = vicarious intergroup power. PSP = personal sense of power. All χ^2 difference tests have *df* = 1. In Study 2.2, the personal sense of power scale required error terms for items 3, 5, and 8 to be correlated: the fit indices presented for Study 2.2 are with these error terms correlated. Without the error terms correlated the 2-factor models still fit the data better than the 1-factor models. In Study 2.3, modification indices suggested error terms for items 1 and 6 of the vicarious intergroup power scale to be correlated: fit indices presented for intergroup power in Study 2.3 are with these error terms correlated. Even without these error terms correlated the 2-factor structures fit the data better than the 1-factor structures. All two-factor models fit comparably better than the corresponding one-factor model.
***$p \leq .005$.

Table 20
*Fit Statistics and Results of χ2 Difference Tests for Vicarious **Inter**group Power Modelled with other Related Constructs (Studies 2.2 and 2.3)*

	Comparison of 1- vs 2-factor models								
	One-factor model				Two-factor model				Difference
Measurement models	χ^2	*df*	CFI	SRMR	χ^2	*df*	CFI	SRMR	$\Delta\chi^2$
Intergroup & PSP									
Study 2.2	758.32***	101	.59	.15	290.30***	100	.91	.07	468.01***
Study 2.3	840.18***	103	.68	.13	377.28***	102	.88	.07	462.90***
Intergroup & Self-efficacy									
Study 2.2	911.56***	104	.64	.14	247.17***	103	.94	.05	664.39***
Study 2.3	875.04***	103	.68	.16	267.44***	102	.93	.06	607.60***
Intergroup & Workplace status									
Study 2.2	1655.20***	65	.43	.23	175.03***	64	.96	.04	1480.17***
Study 2.3	700.14***	64	.78	.16	224.91***	63	.94	.07	475.23***

Note. Intergroup = vicarious intergroup power. PSP = personal sense of power. All χ^2 difference tests have *df* = 1. In Study 2.2, the personal sense of power scale required modification such that error terms for items 3, 5, and 8 needed to be correlated (they all relate to power and ability to get others to do what one wants). The fit indices presented for Study 2.2 are with these error terms correlated. Without the error terms correlated the 2-factor models were still better fits than the 1-factor models. In Study 2.3, modification indices suggested error terms for items 1 and 6 of the vicarious intergroup power scale to be correlated which made sense given their close wording: fit indices presented for Study 2.3 are with these error terms correlated. Even without these error terms correlated the 2-factor structures fit the data better than the 1-factor structures. All two-factor models fit comparably better than the corresponding one-factor model. ***$p \leq .005$.

Nomological networks. We used the same model as in Study 2.1 to analyse the hypothesised indirect effects. As predicted, the contextual factors related to dissent (except dissent costs in Study 2.3) had unique significant indirect relationships with dissent *through* intragroup power (Table 11); and the factors related to whistleblowing (except procedural knowledge in Study 2.2, and concern for wrongdoers in Study 2.3) had unique significant indirect relationships with whistleblowing *through* vicarious intergroup power (Table 12).[25] Construct validity based on nomological networks was therefore satisfied.

Further analyses. The perceived intragroup power scale was a stronger predictor of dissent than any of the related constructs or the contextual factors related to dissent, in Study 2.2 (all *p*s < .001) and Study 2.3 (all *p*s < .001). Likewise, the vicarious intergroup power scale was a stronger predictor of whistleblowing than any of the related constructs or contextual variables, in Study 2.2 (institutional support: $p = .013$; all other *p*s < .001) and Study 2.3 (procedural knowledge: $p = .002$; all other *p*s ≤ .002).

Taken together, Studies 2.2 and 2.3 confirmed the factor structures of the intragroup and vicarious intergroup power scales, and provided strong evidence for convergent, discriminant, and construct validity. Moreover, these findings held across independent samples of employees in relation to behavioural intentions (Study 2.2) and self-reported behavioural recall (Study 2.3). Intragroup power was distinctly related to dissent and

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[25] When we did not include the other contextual factors as control variables, the hypothesised indirect relationships were all significant: indirect relationship of dissent costs with dissent, through intragroup power in Study 3 ($B = 0.49$, $SE = .09$, $CI_{95\%} = [0.33, 0.69]$); indirect relationships with whistleblowing through vicarious intergroup power, for procedural knowledge in Study 2.2 ($B = 0.32$, $SE = 0.06$, $CI_{95\%} = [0.20, 0.44]$), and concern for wrongdoers in Study 3 ($B = 0.36$, $SE = .10$, $CI_{95\%} = [0.18, 0.59]$).

vicarious intergroup power was distinctly related to whistleblowing; and both appeared to mediate the effects of the relevant contextual power-related variables.

General Discussion

Prior whistleblowing research has seemed to treat power as a unitary construct, describing whistleblowers as those lacking it, while at the same time suggesting that power to effect change can come from different sources (e.g., Miceli & Near, 2005; Near & Miceli, 1996). To advance psychological understanding of whistleblowing, we delineated two constructs representing two sources of power: intragroup power, where one perceives a capacity for direct influence; and vicarious intergroup power, where one perceives a capacity for influence through the power of a reporting agency. We presented a comprehensive and operational definition for each of these constructs, developed scales to measure them, and used three independent samples to provide evidence for their psychometric properties. The intragroup and vicarious intergroup power scales are the first validated measures of, and the first evidence for, two distinct psychological constructs of power for people motivated to act against the wrongdoing of their peers.

We demonstrated that the scales measuring perceived intragroup and vicarious intergroup power are reliable and valid, successfully predicting the outcomes they were designed to—namely, (self-reported) dissent and whistleblowing. We conceptually distinguished these power constructs from other related constructs (i.e., personal sense of power, self-efficacy, and workplace status), and provided empirical evidence for convergent and discriminant validity supporting these distinctions. Moreover, we developed psychometrically valid and reliable scales for a variety of contextual factors identified in the literature as important antecedents of dissent (i.e., personal standing, dissent costs, group openness) and whistleblowing (i.e., whistleblowing costs, institutional support, procedural knowledge, power of the reporting agency, concern for the wrongdoers). And, we showed

that these contextual factors may have indirect relationships with dissent and whistleblowing, through perceived intragroup and vicarious intergroup power.

Theoretical and Practical Implications

The present research provides evidence for a more complex and multi-faceted understanding of social power in the context of whistleblowing, challenging the current incomplete view of whistleblowers as those who lack power. By distinguishing power residing in the individual from "power *through*" (Turner, 2005)—where an individual may perceive a capacity for influence indirectly, through the power of others—we have shown that whistleblowers do not lack power per se, but may in fact perceive power vicariously. Indeed, people who are motivated to address an ingroup's wrongdoing may experience two forms of social power, both of which are likely to play an important role in determining what they would do in response to ingroup wrongdoing. When an individual perceives high intragroup power they will be more likely to express dissent, and perceive less need for whistleblowing. However, with low intragroup power, such as when dissent has failed to achieve change, the individual may consider whistleblowing to the extent that they perceive vicarious intergroup power. Therefore, while whistleblowers may be those who lack direct power they are nevertheless likely to perceive power for change vicariously—otherwise they are likely to be silent observers.

This conceptualisation of power can help to consolidate some of the seemingly inconsistent findings in the literature (for a review of inconsistent findings, see Vadera et al., 2009). Indeed, many contextual factors discovered by researchers as important antecedents of dissent and/or whistleblowing may be relevant only in so far as they affect the psychological constructs of intragroup and vicarious intergroup power. For instance, our findings suggest that important predictors of dissent identified in past research, such as dissent costs (e.g., Morrison, 2014), the group's openness to dissent (e.g., Morrison et al., 2015), and one's

authority or personal standing within the group (e.g., Hershcovis et al., 2017) are likely to be indirectly related to dissent through perceived intragroup power. Likewise, several contextual factors identified in the literature may be indirectly related to whistleblowing through vicarious intergroup power. These include whistleblowing costs (e.g., Rothschild & Miethe, 1999), institutional support for whistleblowing (e.g., Keenan, 1990), knowledge of whistleblowing channels (Cho & Song, 2015), the power of the reporting agency (e.g., Lavena, 2014), and concern for the wrongdoers (e.g., Erickson et al., 2017). Whereas past research has focused on these contextual factors in isolation, our findings suggest that much can be gained by considering their cumulative effects on intragroup and vicarious intergroup power, for it is through these constructs that they would impact dissent and/or whistleblowing.

Importantly, the scales we developed can be adapted and used for future theoretical and empirical work, and by organisations and institutions for informing practice and policy. Researchers can use the intragroup and vicarious intergroup power measures to examine the mechanisms of other antecedents of whistleblowing, and to explore which antecedents are most important with respect to how they impact people's perceptions of power. These can then be targeted by interventions and policies in applied settings. Organisations and institutions can use the power scales to examine the effectiveness of interventions designed to empower their members to speak out against wrongdoing, and to identify areas where members may be feeling disempowered. Similarly, the scales for the contextual variables can be used to determine the factors that are contributing to people's sense of disempowerment. Findings from such investigations can inform organisational and institutional practice and policy aimed at fine tuning and improving the effectiveness of whistleblowing procedures.

Limitations and Future Directions

We note that our conclusions should be tempered by the limitations of our studies. For example, because all measures were taken using self-reports, one limitation is the potential for common methods bias (Hinkin, 1998; Podsakoff et al., 2003; Podsakoff et al., 2012). Notably, in Study 2.3 dissent and whistleblowing were measured in a different way to the power constructs—with dichotomous yes/no responses as compared to Likert scales—which can reduce some forms of common methods bias (Podsakoff et al., 2012). Indeed, the marker variable was not significantly related to dissent or whistleblowing (Table 18). However, there is still the potential of other types of common methods bias including consistency motif, where participants try to remain consistent in how they respond to similar questions, and demand characteristics, where responses are driven by what participants think the researchers want (Podsakoff et al., 2003). Future research can address these limitations by measuring the predictors (i.e., intragroup and vicarious intergroup power) and outcomes (i.e., dissent and whistleblowing) using different methods and/or at different time-points (see Podsakoff et al., 2012).

Another limitation is that the present findings are correlational, leaving open the possibility of third variable or reverse-causality explanations. To address this, researchers could manipulate the contextual factors and examine their effects on intragroup and vicarious intergroup power. Likewise, they could manipulate the power constructs to test their causal effects on dissent and whistleblowing or, alternatively, conduct longitudinal prospective studies. Existing evidence suggests that causality does run in the predicted direction for some of the relationships in the present paper. Hershcovis et al. (2017) manipulated supervisory position of participants (i.e., personal standing) and observed that behavioural intentions for dissent were increased. In another study, perceived institutional support for whistleblowing

and whistleblowers (i.e., whether the organisation had acted effectively on previous reports) was manipulated in vignettes, increasing whistleblowing intentions (Seifert et al., 2010).

Moreover, we acknowledge our reliance on online samples which may not be representative of the true population of employees. However, there are studies to show that such crowdsourcing platforms can produce data at least as reliable and samples more representative than traditional methods of participant recruitment (Buhrmester, Kwang, & Gosling, 2011; Peer, Brandimarte, Samat, & Acquisti, 2017). Future research should test the psychometric properties of our scales using samples of employees randomly selected from public and private sector organisations across different cultural contexts.

Conclusion

Notwithstanding the limitations, the present studies provide empirical support for the proposition that people may experience two distinct types of social power, and thus helping to advance psychological understanding of whistleblowing by providing evidence for a more nuanced view of the complex nature of power in the whistleblowing context. The current paper presents the psychometric properties of scales designed to measure perceived intragroup power (capacity to influence ingroup's wrongdoing internally) and vicarious intergroup power (capacity to influence ingroup's wrongdoing through whistleblowing), supporting their distinctiveness and importance in predicting dissent and whistleblowing, respectively. The evidence suggests that these psychological constructs may be the mechanism for many of the antecedents of dissent and whistleblowing identified in past research, thus helping to integrate past findings and highlighting avenues for future research.

CHAPTER 5: General Discussion

My thesis has two interrelated goals. I wanted to advance a psychological understanding of whistleblowing and thereby make a significant contribution to the organisational literature on this increasingly important phenomenon which has thus far lacked a psychological perspective. At the same time, I wanted to address the failure of the social identity literature in addressing whistleblowing as a distinct response to ingroup wrongdoing. I therefore developed a social psychological model of whistleblowing that helps explain when and why an individual would be motivated to report their group's wrongdoing to an outside agent.

Towards an Integrative Social Psychological Model of Whistleblowing

Although whistleblowing researchers have long suspected that people's group memberships may play a significant role in the whistleblowing decision (e.g., Miceli & Near, 1992; Near & Miceli, 1987; Vadera et al., 2009), there has not yet been a coherent theoretical perspective, with testable predictions, to describe how this might be so. In parallel to this neglect, social psychology researchers have tended to conflate whistleblowing with dissent, overlooking the differences (e.g., Packer, 2011, 2014). This is problematic when one considers the stark contrast between dissent expressed within a group against its behaviour and disclosure of that behaviour to an external agent. My first innovative contribution, using the social identity framework, was to distinguish whistleblowing from intragroup dissent and articulate how group memberships impact the whistleblowing decision. I then conducted an empirical investigation testing and finding support for the predictions of the integrated social psychological model of whistleblowing. People who perceive the behaviour of their ingroup peers to be in violation of the values of another group will be motivated to take action, and

blow the whistle, to the extent that they identify with the group whose values have been violated.

A further innovation of the model was to challenge the commonly expressed view of whistleblowers as those who lack power for change (e.g., Callahan & Dworkin, 1994; Dozier & Miceli, 1985; Miceli & Near, 1985, 1992, 2002, 2005; Near & Miceli, 1987, 1996). Using the concept of "power *through*", developed by Turner (2005), I distinguished one's perceived capacity to influence group behaviour *directly* (intragroup power) from one's perceived capacity to influence group behaviour *indirectly*, through the power of a reporting agency (vicarious intergroup power). Hence although whistleblowers are indeed those who lack direct power they nevertheless perceive power vicariously—for they would otherwise have remained silent. In three studies empirically testing this theoretical insight, I found support for two distinct psychological constructs representing the two types of social power, and validated scales to measure them both. Once an individual is motivated for action they will be likely to express intragroup dissent directly to the wrongdoers to the extent that they perceive intragroup power. However, with low intragroup power whistleblowing will be more likely in so far as the individual perceives vicarious intergroup power.

The main limitations of my research take two forms. The first pertains to the correlational nature of the findings. My manipulations of superordinate identification did not significantly affect people's whistleblowing intentions. And, in the power studies my focus was on distinguishing between the two constructs and developing and validating the scales to measure them—I therefore did not conduct experiments to test causality. It is possible, then, that my findings are either spurious or the causal effects may run in the opposite direction to that which I have proposed. This limitation can be addressed in experiments by manipulating identification with a superordinate social identity—using a more powerful manipulation than the one I used—and, likewise, by manipulating intragroup and vicarious intergroup power.

Alternatively, or in addition, future research may consider conducting a longitudinal prospective field study. For example, employees may be given surveys at Time 1 measuring the independent variables (superordinate identification and power) and surveys at Time 2, some months later, to measure the outcome variables (dissent and whistleblowing) for those who observed ingroup wrongdoing since Time 1.

The second major limitation of my findings is that they are based on self-reports of behavioural intentions in hypothetical vignettes or recall of past behaviour. This is problematic because what people say they would do may not be what they actually do. And, post hoc sense-making could bias results on self-reports of past behaviour. Relatedly, using the same method to measure the predictor and outcome variables makes my studies susceptible to several types of common methods bias, including consistency motifs and demand characteristics (see Podsakoff et al., 2003). Future research can address these limitations by using behavioural measures of whistleblowing and/or other-reports (where supervisors and managers are asked for whether their subordinates have reported wrongdoing).

Based on the findings from my empirical research and a process of further reflection, the social psychological model of whistleblowing can be refined. One important modification is informed by the results of the studies in Chapter 2. Here, superordinate identification not only predicted whistleblowing intentions (and past behaviour), but also intragroup dissent (correlations in Studies 1.1, 1.3, and 1.4). Moreover, exploratory mediation analyses (not reported in this thesis) showed that, much like for whistleblowing, superordinate identification had significant and indirect effects on dissent, through perceived responsibility. Indeed, when an individual feels responsible to act against ingroup wrongdoing due to being identified with a superordinate social identity whose values have been violated, they are likely to consider multiple ways of acting. The social psychological model of whistleblowing

should therefore reflect that superordinate identification will predict dissent and whistleblowing.

Another refinement of the model resulted from further reflection, particularly with respect to the data from Study 1.1, and helpful feedback from a reviewer/examiner. Although the current evidence supports the main effects of ingroup identification, superordinate identification, intragroup power, and vicarious intergroup power; the model, as presented in Chapter 1, may imply interactive effects between the explicated variables. The model would be improved by making these implied interactive relationships explicit.

First, strength of identification with the offending ingroup and the superordinate social identity may interact with one another in their effects on the likelihood of whistleblowing. The specific pattern would depend on whether loyalty to one's ingroup or commitment to a superordinate group's values dominates. Specifically, being strongly identified with a superordinate social identity whose values are perceived to have been violated is predicted to increase whistleblowing, but this effect could be attenuated for people who are also strongly identified (or have relationship closeness and/or a sense of loyalty) with the offending ingroup—that is, loyalty and/or the ingroup's moral image may trump superordinate values. In this case, whistleblowing would be *most* likely when there is strong identification with the superordinate group *and* weak identification with the offending ingroup. Conversely, being loyal or strongly identified with the offending ingroup, members should be protective of the group's moral image and less inclined to whistleblow, but this might be attenuated, and members might still be willing to blow the whistle, when they are strongly identified with the superordinate group whose values are violated—that is, superordinate values may trump loyalty and/or the ingroup's moral image. In this case, whistleblowing would be *least* likely when there is strong identification with the offending

ingroup *and* weak identification with the superordinate group. Indeed, the marginal interaction effect in Study 1.1 supports this pattern.

Second, intragroup and vicarious intergroup power are also likely to interact with identity. Whistleblowing can be seen by highly identified ingroup members who perceive low intragroup power as another opportunity to improve the moral standing of the group, especially when the group is perceived as having steered away from its goals or lost its moral compass (Near & Miceli, 1987); though they may be reluctant to engage in whistleblowing because of the potential costs it brings for the group. Therefore, perceiving high intragroup power can accentuate the effect of ingroup identification and closeness on whistleblowing. In contrast, intragroup power and vicarious intergroup power would respectively attenuate and accentuate the effect of superordinate identification on whistleblowing. With high intragroup power dissent may be sufficient for change and thus superordinate identification will be less likely to lead to whistleblowing. And, once motivated for whistleblowing, perceiving vicarious intergroup power will further increase its likelihood. Hence, members who identify strongly with a superordinate social identity whose values have been violated will be more likely to resort to whistleblowing, *particularly* when they perceive low intragroup power and/or high intergroup power.

I would also like to note some conceptual complexities regarding the power constructs, thanks again to a helpful reviewer/examiner. I attempted to make an argument for why the efficacy and costs of intragroup and vicarious intergroup power represent a single construct with a 1-factor structure. I acknowledge that such a perspective may be overly simplistic and result in a loss of information when investigating these constructs. For example, one may perceive high efficacy to influence an ingroup's behaviour (either directly or through another agency) and yet perceive high costs of attempting to do so. Hence perceived efficacy and costs would work in opposing directions at the same time, and this

information would be lost if we were to consider (and measure) both as representing a construct with a single dimension. In the supplementary materials (noted in a footnote of Chapter 4, https://osf.io/y8msz/?view_only=8e7ef645058644bb9a5bc478d19b66de), I tested and found support for a 2-factor structure of the power constructs, where perceived efficacy and costs are modelled as separate dimensions. I am thus convinced by the data that the power scales I developed can be treated as having 2 dimensions. However, I have also presented evidence that they can be treated as having a 1-factor structure.

By conceptually considering the efficacy and costs of influence as components of the same underlying construct I am attempting to acknowledge the overall sense of how an individual would feel when motivated to act against an observed wrongdoing, whether they feel empowered with respect to speaking out. To do this, we borrow from two perspectives of the concept of power: one in which the capacity to effect change is key (i.e., efficacy of influence), and another that views a dependency on others as powerlessness (see interdependency theory of power; e.g., Emerson, 1962; Thibaut & Kelley, 1959). If one is dependent on another for resources, as an individual might be dependent on their organisation for income, then one may be powerless to act against that other due to the costs of doing so. Hence, although I propose that perceptions of both efficacy and costs can be subsumed under the construct of power, they are different facets; researchers and policy-makers may want to consider also the unique effects that each may have on whistleblowing behaviour. Taken together, I suggest that the measurement scales from Chapter 4 may be treated as either a 1-factor or 2-factor structure, depending on the purposes for which they are being used. For example, using them as a 1-factor structure would provide a measure of the general feeling about whistleblowing (or dissent) in an organisational department; as a 2-factor structure they would provide more nuanced information regarding whether it is efficacy or cost concerns that need to be addressed.

Moreover, although I have stated that intragroup power resides within the individual, this does not mean that such influence is *only* a function of the individual who is acting, without also being a function of other contextual factors (such as ingroup openness). Rather, I wanted to distinguish intragroup power, where the influence of the individual is exerted directly on the ingroup, from vicarious intergroup power, where the influence of the individual is separated by a further step. Specifically, vicarious intergroup power involves two steps: first, the individual must perceive capacity to influence the reporting agency; and second, the individual must perceive the reporting agency as having capacity to influence the ingroup. In contrast, intragroup power merely requires the individual to perceive capacity to influence the ingroup themselves.

Going Beyond the Data: Implications for Other Fields of Inquiry

The present research advances a novel psychological perspective to whistleblowing that is capable of integrating many previous findings on the determinants of whistleblowing and highlights the roles of social identity and power processes. Whistleblowing has generally been considered in the context of organisational and legal settings where an employee or public servant who observes wrongdoing may either report it or not. But a psychological understanding of whistleblowing can also provide insights into other domains of psychological inquiry.

Implications for Psychological Theory: Moral Courage

Moral courage is a person's act to prevent another person or group from violating ethical norms. Whistleblowing (and intragroup dissent) can be understood as a form of moral courage: an attempt at preventing (or correcting) wrongdoing by speaking up. Halmburger, Baumert, and Schmitt (2016) present a five-stage model of moral courage based on Latané and Darley's (1970) model of helping behaviour. An analysis of this model suggests that my social psychological perspective of whistleblowing may provide some insights for when and

why people may display acts of moral courage. In Stage 1 of the integrated model of moral courage, a person must first witness and be aware of the behaviour in question. In Stage 2, the witness must interpret the observed behaviour as a norm violation. Halmburger et al. (2016) point out that interpreting behaviour as a norm violation may not be clear cut in ambiguous situations. Moreover, by considering the social identity perspective, we can see that what may be perceived as a norm violation by one may not be perceived as such by another. At this stage, the observer's social identities will be critical. An observer who identifies strongly with a social identity whose values and ethical norms are being violated will be more likely to perceive a norm violation than one who does not identify with that social identity. For example, a person who identifies strongly as a feminist and with feminist values (perhaps belonging to a feminist group) may interpret an inappropriate comment as sexual harassment and thus as a norm violation; whereas another who does not identify as a feminist may perceive no violation. Therefore, strength of identification with a social identity whose values and norms are being violated is likely to determine whether and to what extent an observer will interpret a situation as a norm violation.

In Stage 3 of Halmburger et al.'s (2016) model, the observer of the norm violation must then take responsibility for addressing it. The social identity framework is informative here as well. People who self-categorise and identify with a group will be more likely to internalise the goals, values, and norms of that group (Terry & Hogg, 1996; Turner et al., 1987). And, according to my psychological model of whistleblowing, how strongly one identifies with a group whose values and norms are being violated would predict their perceived sense of responsibility to take corrective action. An individual who identifies strongly as a feminist will perceive a greater sense of responsibility to act against sexual harassment than an individual who identifies only weakly with feminism. An observer's

social identities would therefore factor into whether they interpret the situation as a norm violation and also whether they take responsibility for addressing it.

Next, in Stage 4 of the model of moral courage, Halmburger et al. (2016) argue that the observer of the norm violation who feels responsible to act must consider their own skills and abilities for intervening which can involve feelings of general self-efficacy. Relatedly, in Stage 5, the person decides whether to act through a cost-benefit analysis (as well as other considerations) where they will take into account the potential negative consequences of intervening, such as retaliation and other social repercussions. In the psychological model of whistleblowing, intragroup power and vicarious intergroup power both encapsulate perceptions of safety (and thus costs) as well as efficacy. These perceptions correspond with Stages 4 and 5 of Halmburger et al.'s model of moral courage. The observer who perceives a norm violation and takes responsibility to address it may determine whether they can have the desired effect by acting directly, by speaking out and intervening themselves, or indirectly, by reporting the norm violation to another who can intervene. According to my thesis, this will determine whether and what action is taken.

Taken together, the social psychological perspective of the whistleblowing process can provide some insights that may be informative for some stages of the integrated model of moral courage. I would therefore suggest that there is cause to consider an integration of theorising on moral courage with dissent and whistleblowing.

Implications for other Social Issues

The social psychological model of whistleblowing is not necessarily limited to organisational and professional settings, but may be broadly applied to social groups. This point is affirmed when one considers that from a psychological perspective, organisations can be defined to include any social group that impacts the psychology of the individuals who belong to it (e.g., Haslam, 2004). For example, the wider scientific research community,

though having no formal organisational or professional base, consists of individuals who identify with a similar core set of values. Likewise, children in a school are part of the organisation of the school and are likely to distinguish between students/teachers of one school and students/teachers of another school, between teachers and other adults not part of the school, and even between students and teachers of the same school; all depending on the context. As I will make clear in the following paragraphs, this new psychological understanding of the dynamic nature of the whistleblowing process may help advance understanding in many other domains where dissent and action are critical and thus used to inform practice and policy. These include situations of scientific misconduct, bullying, and community policing.

Scientific misconduct. Data fraud poses a threat to the credibility of science, wastes research funding, and puts public health at risk (O'Leary, 2015; Pickett & Roche, 2017). As discussed in earlier chapters, the psychological perspective of the whistleblowing process can be applied to the context of scientific misconduct. Indeed, whistleblowing is the primary mechanism for detecting scientific fraud (Gross, 2016; Stroebe et al., 2012). And, those who are close to the fraud, to the person committing it, are the ones who have the necessary insider information to become whistleblowers (Stroebe et al., 2012). For example, the whistleblowers who revealed Diedrik Stapel's data fabrication were graduate students at his university (Bhattacharjee, 2013). Graduate students and postdoctoral researchers who are considering blowing the whistle on misconduct committed by their supervisors may face the loss of their funding, project, mentor, and research facilities (Gross, 2016), and they may be concerned for the person on whom they are reporting (Stroebe et al., 2012). Hence those who are best placed to reveal cases of scientific misconduct are likely to take into account the potential for negative personal consequences of whistleblowing, which can be disempowering.

A psychological understanding of whistleblowing suggests several ways people may be encouraged to speak out against scientific misconduct. Individual scientists first need to be motivated to act against such wrongdoing. Most scientists are committed to scientific values and the pursuit of knowledge; and we currently have a clear outline of what constitutes scientific misconduct (e.g., data fraud, data manipulation, plagiarism). The motivation to speak out is therefore likely to be present already. However, for researchers who become aware of misconduct, expressing dissent within their department may be too personally costly (particularly if the accused is well connected and powerful) and, as outlined above, the personal costs associated with speaking out against scientific misconduct can be an important inhibiting factor. Furthermore, the scientific community currently has no centralised reporting agency with regulatory power to investigate and take action on reports it receives (Edwards & Roy, 2017). This is problematic given my research showing that observers of wrongdoing are disempowered when there are no (or when they are not aware of) appropriate, safe, and effective channels for reporting—when they perceive little capacity to effect change either directly or through the power of a reporting agency. People can be empowered to speak out against scientific misconduct when we can provide reporting channels that are effective and safe, and that can protect them. Achieving this requires a reporting agency to which misconduct can be reported, but which also has the resources to investigate and the power to act.

Bullying. The social psychological model of whistleblowing may also apply in the context of student and adolescent bullying. Bullying can have serious consequences for victims, who tend to have lower academic achievement and feel less belonging at school (Glew, Fan, Katon, Rivara, & Kernic, 2005), and greater mental health issues as indicated by depression and suicidal ideation (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007; van der Wal, deWit, &

Hirasing, 2003). Despite such negative consequences, many children who are victims of bullying do not speak out, either at home or to teachers, and bystanders often do not intervene (Whitney & Smith, 1993; see also Rivers & Smith, 1994). It is thus important to understand the psychological process of what may lead bystanders, and victims themselves, to speak out in dissent and/or to engage in whistleblowing—that is, to report the bullying to others who may act on their behalf.

The perspective of whistleblowing I have advanced suggests that when student bystanders observe bullying behaviour they will be motivated to act and report it the more strongly they identify with the victim (see also, Cassematis & Wortley, 2013; Curtis & Taylor, 2009; De Graaf, 2010; Miceli & Near, 1985, 2005). In line with this reasoning, being friends with the victim of a bullying incident was found to be a motive for intervening, including reporting it to a teacher (Bellmore, Ma, You, & Hughes, 2012; Forsberg, Thornberg, & Samuelsson, 2014). On the other hand, Forsberg et al.'s (2014) interviews revealed that, much like closeness with wrongdoers inhibits reporting, friendship with the bully inhibits bystanders from intervening. However, according to my findings, although friendship with wrongdoers reduces whistleblowing intentions, it can increase intentions for dissent. A bystander who identifies strongly with a superordinate group whose core values oppose bullying (e.g., the school) will be likely to perceive a sense of responsibility to take corrective action and consequently report the bullying incident or, when the bully is a friend, to express dissent directly to them. Hence a motivating factor that should be considered by interested researchers and/or policy-makers is a shared social identity between bystanders and the victim, a salient superordinate identity with clear values and norms against bullying. In this way the social psychological model of whistleblowing provides a new perspective for understanding bystander motivations to intervene in bullying situations.

Of course, motivation to intervene may not enough. Forsberg et al. (2014) found that relative status may also be an important determinant of bystander interventions—kids are less inclined to intervene when the bully is older than them, but more inclined when the bully is relatively younger, likely because of the potential for negative personal consequences such as retaliation. Relatedly, Thornberg et al. (2012) found that students decided on whether they would express direct dissent or report the incident to a teacher depending on their perceptions about the effectiveness of each action. This is in line with my conceptualisation of intragroup and vicarious intergroup power, which would distinguish a bystander's perceived capacity to stop a bully by expressing dissent from their perceived capacity to stop the bully by reporting them (e.g., to a teacher). This distinction is critical when developing interventions for empowering bystanders to speak out against bullying. For example, a student who is younger than the bully may fear speaking up in dissent but may nevertheless be empowered vicariously, if there is an *effective* and *safe* channel for reporting. An accessible teacher may thus provide a channel of vicarious power for a student who would otherwise feel powerless to intervene (e.g., Thornberg et al., 2012). Those who research and/or are responsible for practice and policy that addresses bullying can use the instruments developed and validated in my thesis to examine how empowered bystanders currently are (e.g., students in a class or school), and the effectiveness of interventions aimed at empowering them to act.

Community-oriented policing. Another context where the model of whistleblowing may provide a useful perspective is for community-oriented policing. Community oriented policing emphasises community engagement in crime prevention strategies and involves approaches such as education programs in schools, neighbourhood watch, and partnerships that encourage police and community members to work together, which may result in greater perceived fairness, accountability, and trust in police (Gill, Weisburd, Telep, Vitter, & Bennett, 2014). It has also been applied in counter-terrorism measures (see Dunn et al.,

2016). According to my theorising, community-oriented policing strategies may promote community members' sense of shared social identity with police, increasing the likelihood that they would act for the benefit of this superordinate identity and their commitment to the values and goals of policing programs. In the interests of this shared superordinate social identity, community members would be more likely to adhere to the law and report crimes that they witness. As Sampson, Raudenbush, and Earls (1997) argued, in socially cohesive communities, where the rules are clear and people trust one another, community members are more likely to intervene for the common good.

Furthermore, a shared social identity with the police enhances the perception of shared values and goals; and judgments of the police representing the values of a community drive satisfaction and confidence in police effectiveness (Jackson & Sunshine, 2007), which would in turn make people more likely to report crimes they witness. Indeed, cooperation with the police, including reporting crimes to them, is related to community members' perceptions about the effectiveness of police (Sunshine & Tyler 2003). This corresponds to my conceptualisation of vicarious intergroup power, which suggests that community-oriented policing strategies should, in addition to enhancing a shared social identity, aim to empower community members vicariously so that when people are motivated to report crime they will feel empowered to do so. The social psychological model of whistleblowing, with the validated scales measuring perceived intragroup and vicarious intergroup power, may therefore prove useful for informing and assessing community-oriented policing strategies.

Conclusion: Encouraging People to Speak Out

As suggested by the preceding discussion, the motivation to blow the whistle on an ingroup's wrongdoing derives partly from one's identification with a superordinate group that is contextually relevant. A superordinate identity is not restricted to a profession (e.g., science), community (e.g., school, neighbourhood), or the public interest. For example, the

relevant superordinate category for some people may be their religious identity, to others their political identity. According to the social identity model of whistleblowing, any superordinate identity can shape how people perceive a situation and how they respond to it. For example, those who identify as liberals (but not conservatives) tend to emphasise the moral principles of harm/care and fairness/reciprocity, compared to the other principles (Graham, Haidt, & Nosek, 2009). Hence a behaviour that violates the principles of fairness may be perceived as a greater violation by strongly identified liberals than conservatives. When people are strongly identified with a superordinate social identity whose values and norms are being violated they will be more likely to feel a sense of responsibility to address the violation and thus speak out.

In all of the contexts previously discussed, the distinction between dissent and whistleblowing is critical; for they are different ways of speaking out. In some situations an individual can express dissent, to speak up within their group attempting to change the minds and behaviours of those who are perceived to be violating the relevant norms or values. In other situations it may be dangerous to intervene directly, such as when a crime is in progress, and blowing the whistle would be more appropriate. In yet other situations one may engage in both, such as when an individual observes sexual harassment—they can express dissent directly to the perpetrator and also report it to a relevant authority. The importance of the dissent and whistleblowing distinction is further highlighted when we consider that there may be different mechanisms and/or methods of empowering people for them. For dissent, empowerment relates to the observer's perceptions about their capacity to prevent or change the behaviour by directly influencing the perpetrator. On the other hand, empowerment to speak out to others and report an observed wrongdoing relates to the observer's perceived capacity to prevent or change the behaviour through another's influence. When attempting to

empower people to speak out in any context, interventions should be tailored specifically for the type of empowerment that the context calls for.

I have made a case for how the social psychological model of whistleblowing may be informative for various lines of research, potentially providing a new perspective and insights for how other phenomena may be investigated. However, I have made speculations that go beyond the data, which can either be refuted or supported based on the outcomes of future research. Nevertheless, there are many lines of inquiry that can be pursued using the psychological understanding of whistleblowing as a foundation, as it has implications for virtually all contexts where wrongdoing may occur in groups. For practice and policy, whistleblowing is an important means of stemming or correcting wrongdoing that occurs in groups. Whistleblowing can be encouraged by strengthening individuals' commitment to a superordinate identity and its values, and empowering them through the effectiveness and safety of enlisting an outside regulatory agent.

Appendix 1

Contextual Factors Relating to Dissent (original 17 items)

I lack the authority to stop the group's wrongdoing directly (developed based on theory presented in the introduction)

I could use my leadership within the group to stop the wrongdoing (developed based on theory presented in the introduction)

I have enough power within my group to change its wrongdoing behaviour (developed based on theory presented in the introduction)

My status in the group means I can put an end to the wrongdoing behaviour (developed based on theory presented in the introduction)

I could effectively speak up in the group with suggestions to stop its wrongdoing behaviour (adapted from "voice safety" measure; LePine & Van Dyne, 1998; Morrison et al., 2011)

The group would listen to me if I spoke up against their wrongdoing behaviour (adapted from "target openness measure"; Morrison et al., 2015)

The group would ignore my recommendations to stop its behaviour (adapted from "target openness measure"; Morrison et al., 2015)

The group would be open to my criticism of their behaviour (adapted from "target openness measure"; Morrison et al., 2015)

The group would welcome opinions from members critical of their behaviour (adapted from "target openness measure"; Morrison et al., 2015)

Group members would be discouraged from speaking up about the group's behaviour (adapted from "freedom of speech" measure; Kassing, 2000)

In my group, members would have the freedom to speak up about its wrongful behaviour (adapted from "freedom of speech" measure; Kassing, 2000)

In my group, expressing disagreement with its wrongdoing behaviour would be welcomed (adapted from “psychological safety measure” measure; Liang et al., 2012)

Other group members would pick on me for expressing disagreement with the group’s wrongdoing (adapted from “psychological safety measure” measure; Liang et al., 2012)

Speaking up against the wrongdoing directly to my group would be personally costly for me (adapted from “psychological safety measure” measure; Liang et al., 2012)

I would be labelled negatively for speaking up within my group about its wrongdoing (adapted from Morrison 2014)

I would feel comfortable expressing dissent within the group about its wrongdoing behaviour (theorising by Packer & Chasteen, 2009)

I would be fearful about speaking up against the wrongdoing directly to the group (adapted from “freedom of speech” measure; Kassing, 2000)

Contextual Factors Relating to Whistleblowing (21 items: those marked with a star "*" were removed prior to presentation of the EFA results in Study 1.1)

*I know I could get the organisation to act if I were to lodge a complaint about my group's behaviour (adapted from measure of "whistleblowing self-efficacy"; Jones et al., 2014)

*If I reported my group's wrongdoing to a reporting agency within my organisation it would be acted upon appropriately (adapted from Taylor & Curtis, 2016)

*I could be effective in stopping the group's wrongdoing by reporting it (adapted from Park & Blenkinsop, 2009)

*If I reported the wrongdoing to a reporting agency within my organisation, it is likely that corrective action would be taken (theorising by Miceli & Near, 1984)

*Even if I reported the wrongdoing, nothing could or would be done about it (adapted from interviews; Near et al., 2004)

I know how to get the right people in my organisation involved to deal with my group's wrongdoing behaviour (adapted from measure of "whistleblowing self-efficacy"; Jones et al., 2014)

I am knowledgeable about the whistleblowing channels I could use to report the wrongdoing within my organisation (adapted from Miceli & Near, 1984)

I know where I could report the wrongdoing in my organisation (adapted from Miceli & Near, 1985)

My organisation provides adequate protection for employees who report wrongdoing (adapted from Miceli & Near, 1985)

If I reported my group's behaviour I would be likely to encounter retaliation from the organisation (adapted from Miceli & Near, 1985; and Park & Blenkinsop, 2009)

If I reported my group's behaviour the group would retaliate against me (adapted from Miceli & Near, 1985; and Park & Blenkinsop, 2009)

I am uncertain about the organisational guidelines for how to report my group's behaviour (adapted from focus group discussions; Rennie & Crosby, 2002)

My organisation actively encourages employees to report wrongdoing (adapted from "Organisational support for whistleblowing" measure; Cho & Song, 2015)

My organisation would protect me against retaliation if I reported my group's wrongdoing (adapted from "Organisational protection" measure; Cho & Song, 2015)

If I reported my group's wrongdoing my organisation would support me (adapted and changed a lot from Alleyne et al., 2016; from perceived organisational support)

If I were to report my group's wrongdoing I would be fearful that I would receive some sort of backlash (adapted from interviews; Nitsch et al., 2005)

I would be viewed negatively if I disclosed the group's wrongdoing to a reporting agency (adapted from interviews; Milliken et al., 2003)

It would be important to me to avoid upsetting or embarrassing members of my group (adapted from interviews; Milliken et al., 2003)

I would worry that if I reported the wrongdoing my group would get in trouble (adapted from interviews; Milliken et al., 2003)

I would be afraid of damaging relationships I care about if I were to report my group's actions (adapted from interviews; Milliken et al., 2003; and Nitsch et al., 2005)

I would worry about the negative consequences for my group members if I were to report the wrongdoing to a reporting agency (adapted from interviews; de Graaf, 2010)

Perceived Intragroup Power Scale (8 items)

I feel like I could express dissent within the group about its actions

Expressing my concerns directly to the group would be effective in changing the wrongdoing behaviour

I feel like expressing disagreement about the wrongdoing directly to the group would be a reasonable option for me

I could put an end to the group's wrongdoing by voicing my disagreement directly to them

I would be able to persuade the group to change its behaviour

I feel like I could change the group's behaviour internally

I feel like I could effectively voice my concerns about the group's behaviour to the group directly

I feel like I could safely voice my concerns about the group's behaviour to the group directly

Vicarious Intergroup Power Scale (8 items)

Reporting the wrongdoing to a reporting agency in my organisation would be effective in stopping it

I could change the group's behaviour through the influence/power of a reporting agency within my organisation

I feel I could report the group's behaviour if I wanted to

I feel like disclosing the wrongdoing to a reporting agency would be a reasonable option for me

I feel like I could safely disclose the group's behaviour to a reporting agency within my organisation

Expressing my concerns to a reporting agency within my organisation would be effective in changing the wrongdoing behaviour

I could disclose my group's wrongdoing to a reporting agency in the organisation without worrying that it would make my life harder (adapted from "Organisational support for whistleblowing" measure; Cho & Song, 2015)

Reporting my group's wrongdoing would be too risky for me (adapted from interviews; Near et al., 2004)

Appendix 2

All scales started with the stem, "At the time I became aware of the wrongdoing…"

Perceived Intragroup Power

1. I felt like I could express dissent within the group about its actions
2. Expressing my concerns directly to the group would have been effective in changing the wrongdoing behaviour
3. I felt like expressing disagreement about the wrongdoing directly to the group was a reasonable option for me
4. I could have put an end to the group's wrongdoing by voicing my disagreement directly to them
5. I would have been able to persuade the group to change its behaviour
6. I felt like I could change the group's behaviour internally
7. I felt like I could safely voice my concerns about the group's behaviour to the group directly

Vicarious Intergroup Power

1. Reporting the wrongdoing to a reporting agency in my organisation would have been effective in stopping it
2. I could have changed the group's behaviour through the influence/power of a reporting agency within my organisation
3. I felt I could report the group's behaviour if I wanted to
4. I felt like disclosing the wrongdoing to a reporting agency was a reasonable option for me
5. I felt like I could safely disclose the group's behaviour to a reporting agency within my organisation

6. Expressing my concerns to a reporting agency within my organisation would have been effective in changing the wrongdoing behaviour
7. I could have disclosed my group's wrongdoing to a reporting agency within the organisation without worrying that it would have made my life harder
8. Reporting my group's behaviour would have been too risky for me

Contextual Factors related to Dissent

Personal standing

1. I lacked the authority to stop the group's wrongdoing directly
2. I could have used my leadership within the group to stop the wrongdoing
3. I had enough power within my group to change its wrongdoing behaviour
4. My status in the group meant I could put an end to the wrongdoing behaviour

Dissent costs

1. Other group members would have picked on me for expressing disagreement with the group's wrongdoing
2. Speaking up against the wrongdoing directly to my group would have been personally costly for me
3. I would have been labelled negatively for speaking up within the group about its wrongdoing
4. I was fearful about speaking up against the wrongdoing directly to the group

Group openness

1. The group would have been open to my criticism of their behaviour
2. The group would have welcomed opinions from members critical of their behaviour
3. In my group, members had the freedom to speak up about its wrongful behaviour

4. In my group, expressing disagreement with its wrongdoing behaviour would have been welcomed

Contextual Factors related to Whistleblowing

Whistleblowing costs

1. I would have been viewed negatively if I disclosed my group's wrongdoing to a reporting agency
2. If I reported my group's behaviour the group would have retaliated against me
3. If I were to report my group's wrongdoing I feared that I would receive some sort of backlash

Institutional support

1. My organisation actively encouraged employees to report wrongdoing
2. If I reported my group's wrongdoing my organisation would have supported me
3. My organisation would have protected me against retaliation if I reported my group's wrongdoing
4. My organisation provided adequate protection for employees who report wrongdoing

Procedural knowledge

1. I knew how to get the right people in my organisation involved to deal with my group's wrongdoing behaviour
2. I was knowledgeable about the whistleblowing channels I could use to report the wrongdoing within my organisation
3. I knew where I could report the wrongdoing in my organisation
4. I was uncertain about the organisational guidelines for how to report my group's behaviour

Reporting agency's power

1. If I reported it, the reporting agency would have had the authority to deal with my workgroup's wrongdoing
2. If I reported it, the reporting agency in my organisation would have had the power to address my workgroup's wrongdoing behaviour
3. If I reported my workgroup's wrongdoing, the reporting agency in my organisation would have had the resources to conduct an investigation

Concern for wrongdoers

1. It was important to me to avoid upsetting or embarrassing members of my group
2. I was worried that if I reported the wrongdoing my group would get into trouble
3. I was worried about the negative consequences for my group members if I were to report the wrongdoing to a reporting agency
4. I was afraid of damaging relationships I cared about if I were to report my group's actions

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