# Feeling Good, Looking Good or Doing Good? Exploring how the Quality of Motivation predicts the Quantity, Longevity and Persistence of Collective Action

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**Summary**

In the past decade, we have seen greater numbers of people become engaged in collective movements for social change, including the School Strike 4 Climate movement, the Black Lives Matter movement, and surges of mobilisation for gender equality and the rights of refugees. These are defined as *collective action* taken by individuals to improve conditions for the whole group. There has been much speculation about the motives of people who engage in these types of actions, particularly those that are taken online or shared publicly. Many of these actions are argued to be low-effort and low-cost and are thus often critiqued as being driven by self-serving motives such as the desire to look good or feel good about oneself, rather than a genuine commitment to the cause and concern for the plight of disadvantaged groups. Therefore, this thesis examines the underlying motives of people who engage in collective action, and investigates which motives are associated with greater quantity, longevity, and persistence of collective action.

I propose that there are distinct types of motivation underlying the actions of people who support social change, and these can help us to understand the quantity, longevity, and persistence of their action. To address this proposition, I employ a theoretical integration of the insights of self-determination theory and the social identity approach, discussed in detail in Chapter 1. Self-determination theory provides a detailed framework for considering distinct types of motivation. Autonomous motivation reflects internalised motives to engage in a behaviour that is personally valued and congruent with one's sense of self. In contrast, controlled motivation is the externally imposed motive to pursue behaviour due to rewards or punishments, or feelings of guilt, pride, or self-esteem. However, self-determination theory does not provide a framework for considering the role of group processes in pursuing collective goals. Therefore,

the social identity approach is also necessary to understand how the goals and needs of the individual influence those of the group, and vice versa. The social identity approach provides a detailed account of motives such as social identification and group-based anger to pursue collective action, but does not address the possibility that supporters of the same cause will be driven by distinct motives that vary not only in degree or strength, but also in type or quality. Thus, both theories together are needed to understand the role of different types of motivation in driving collective action.

In Chapter 2, I tested the proposition that among supporters of refugees, there are distinct subgroups who meaningfully differ based on their (combinations of) underlying motives. I implemented a person-centred approach to adjudicate the presence of distinct types of supporters among supporters of Syrian refugees (Study 1) and Ukrainian refugees (Study 2) in several countries. The results showed that there are supporters who are disengaged or ambivalent (relatively low on all types of motives), those who are purely autonomous (high only in autonomous motivation) and partially internalised or driven by mixed motives (high in several different types of motivation). I argue that these supporters are meaningfully distinct from each other as they have different psychological characteristics and patterns of collective action engagement. Purely autonomous supporters are more strongly committed to the group and take more action than those who are low on all types of motivation, but those with mixed motives are *most* committed. Thus, autonomous motivation is important for the *quantity* of action, but so too is the addition of controlled motivation.

In Chapter 3, I extended on the finding that there are supporters driven by distinct types of motivation and examined whether the strength of autonomous and controlled motives would predict the *longevity* of collective action. Sustained effort from supporters is necessary for

movements seeking lasting social change as they can take years or decades to achieve their goals, and thus I examined motivation as a factor which may help to explain when and why supporters sustain or diminish their involvement over time. I used longitudinal methods to examine the effects of these motives on changes in action to combat global poverty over time (Study 3). The results showed that autonomous motivation is associated with increases in identification and, in turn, collective action over time, while controlled motivation is associated with decreases in identification and action. I therefore argue that autonomous motivation is important for sustained action, while controlled motivation can ultimately undermine people's involvement and commitment to the cause, and should be used with caution.

In Chapter 4, I examined whether autonomous motivation could also sustain collective action after experiencing a setback or failure and thus promote *persistence*. Setbacks are common in movements seeking social change, as they are often faced with opposition from groups with different ideas about how the world should be. I therefore sought to understand whether autonomous motivation would be a factor that can explain when people persist in their collective action. I tested the proposition that autonomous motivation would increase in importance as a predictor of collective action for social movements that experienced failure, relative to those that experienced success. I first tested this quasi-experimentally in the context of the movements to support and oppose marriage equality in Australia (Study 4), followed by an experiment manipulating perceptions of movement success and failure (Study 5). The results from these two studies were mixed, thus I conducted a third experiment testing whether the effects of success and failure depended on the specificity or broadness of the movement goals, among supporters of the movement to combat climate change (Study 6). The results showed that autonomous motivation was a consistent positive force for identification and collective action

regardless of the movement's outcomes, but had greater effects on identification for those who experienced a specific failure. In contrast, I found no effects of controlled motivation in Studies 4 and 5, and only minimal effects in Study 6.

In Chapter 5 I discuss how the findings of these three empirical chapters cumulatively support the assertion that autonomous motivation is important for the quantity, longevity, and persistence of collective action. I discuss the role of controlled motivation as a positive force for quantity of action, but which undermines longevity and fails to promote persistence. I address the contributions of the thesis to theoretical integrations of self-determination theory and the social identity approach, and consider how these two theories can be used in tandem to help understand motivation for engaging in collective action. I discuss the methodological triangulation used in this thesis to understand the impacts of motivation on collective action, and practical implications of the findings. Overall, this thesis posits that autonomous motivation (genuine passion and internalised commitment to the cause) is crucial for social change as it fosters committed, sustained action within people, yielding an enduring oppositional movement at the group level. Those seeking to encourage others to engage in action to bring about equality and justice should utilise tactics that foster autonomous motivation and avoid using external motivators such as guilt or social approval to inspire action.

## Declaration

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university
2. and the research within will not be submitted for any other future degree or diploma without the permission of Flinders University; and
3. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text

Lisette Yip
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I am incredibly thankful that the past three and a half years of working on this PhD have not only been fruitful for my career but have also been a genuinely fun and rewarding experience. There are several people I have to thank for making this such a wonderful chapter of my life, but I couldn't possibly start with anyone other than my supervisor, Emma Thomas. Emma, I feel incredibly lucky to have worked with you. Your passion and brilliance have been hugely inspirational throughout this journey and you have been a role model every step of the way. You've shown me that it's possible to pursue a career doing work that I care about. Thanks to your guidance and compassion, I have never felt that I was in this alone.

The biggest thank you to my officemates, Charley and Rose. Being allocated to an office with you two was the best-case scenario I could have hoped for. You made this experience about more than just work. Our office shenanigans have been the highlight of the past few years and I am so grateful to have met you and found the most wonderful (creative, compassionate, funny, and above all, willing to commit to the bit) life-long friends. Same goes for Nepheli, honorary officemate. Our Monday lunchtime chats hold a special place in my heart and I look forward to many more Friendsgivings. And of course, this paragraph wouldn't be complete without Steph, thank you for the picnics, craft nights and office drop-ins. Also, special extra mention to Charley for coming up with the title for Chapter 4 of this thesis. I love you guys!

A huge thank you to the members of the Social Influence and Social Change Lab, particularly the other PhD students who have shared all or parts of this journey with me. The lab has been such a wonderful and supportive group and you are all such kind, clever, hard-working individuals. You are all my role models! It's been lovely getting to hang out with you (at the Tav,

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Chapters 2, 3 and 4 of this thesis were written with the help of collaborators. I'm very grateful to my collaborators for accepting me into the research community and for taking the time to share their wisdom and help me become a better researcher.

Finally, to my family – thank you to my parents and Sabine for always supporting me to pursue my interests and passions, and raising me to assume I could do it. And to Jordan, for helping me with coding for Study 7 even though it never made it into the thesis (but stay tuned), and for supporting me in every other way. Coming to work was a joy thanks to all the people listed above, but coming home is a joy thanks to you.

## A Note on the Format of the Thesis

This thesis has been prepared as a series of papers to be submitted for publication. Chapters 2 and 3 of this thesis have been published, while Chapter 4 has been prepared as a manuscript for submission. I provide the details of publication below. Chapters 1 and 5 have been prepared in a traditional thesis format to give context to the thesis as a whole. Therefore, I use singular personal pronouns in Chapters 1 and 5 ('I') and collective pronouns in the empirical chapters ('we'). The text in Chapters 2, 3 and 4 is identical to the papers that have been published or are currently being prepared for submission. However, I have made minor alterations to the numbering of sections, figures, tables, and studies to allow for consistency across the thesis. I have also created a single reference list at the back of the thesis to avoid repetition. At the beginning of each empirical chapter, I include a brief statement which situates the paper within the context of the thesis overall.

I note that Chapter 3 was published before Chapter 2. Thus, there are references to the empirical work conducted in Chapter 3 within Chapter 2 due to the chronological order in which these papers were produced.

Chapter 2 is published as Yip, L., Thomas, E. F., Bliuc, A. M., Boza, M., Kende, A., Lizzio-Wilson, M., Reese, G., & Smith, L. G. (2024). Motivations to engage in collective action: A latent profile analysis of refugee supporters. *British Journal of Social Psychology*. https://doi.org/10.1111/bjso.12786.

Chapter 3 is published as: Yip, L., Thomas, E. F., Amiot, C., Louis, W. R., & McGarty, C. (2024). Autonomous motives foster sustained commitment to action: Integrating self-determination theory and the social identity approach. *Personality and Social Psychology Bulletin*, *50*(5), 750-765. https://doi.org/10.1177/01461672221148396.

Chapter 4 is in preparation as: Yip, L., Thomas, E. F., Amiot, C., Eisner, L., Lizzio-Wilson, M., Louis, W. R., McGarty, C., & Moghaddam, F. (in preparation). I Get Knocked Down but I Get Up Again: Autonomous Motivation Sustains Social Identification and Collective Action After (Specific) Failure [Unpublished manuscript].

**Other publications**

During my candidature I have been involved in several other publications on related topics:

Thomas, E. F., Yip, L., & Lizzio-Wilson, M. (2024). Distinguishing sympathisers, philanthropists, rusted on activists and radicals: Using person-centred analyses in collective action research. *Social and Personality Psychology Compass*, *18*(7). https://doi.org/10.1111/spc3.12987

Thomas, E.F., Bird, L., O'Donnell, A., Osborne, D., Buonaiuto, E., Yip, L., Lizzio-Wilson, M., Wenzel, M. & Skitka, L. (2024). Do conspiracy beliefs fuel support for reactionary social movements? Effects of misbeliefs on actions to oppose lockdown and to 'Stop the Steal'. *British Journal of Social Psychology.* http://doi.org/10.1111/bjso.12727

Thomas, E. F., O'Donnell, A., Osborne, D., Bird, L., Yip, L., Buonaiuto, E., Lizzio-Wilson, M., Skitka, L., & Wenzel, M. (under review). *Conspiracy Beliefs and Democratic Backsliding: Longitudinal Effects of Conspiracy Beliefs on Criticism of Democracy and Support for Authoritarianism During Political Contests.*

Kashima, Y., Yip, L., Fernando, J., Ling, M., Thomas, E. F., Lizzio-Wilson, M. (in preparation). *Utopian Institutions: The Case of Geopolitics.*

Buonaiuto, E. K., Thomas, E. F., & Berndsen, M., Yip, L., & Williamson, P. (in preparation). *When Will People Take the Perspective of Other Group Members? A Systematic Review and Meta-Analysis of the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity.*

Buonaiuto, E. K., Thomas, E. F., & Berndsen, M., Yip, L., & Williamson, P. (in preparation). *Do the Relationships Between Groups Moderate the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity? A Systematic Review and Meta-Analysis*.

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# Chapter 1

## Introduction

In the past decade, we have seen greater numbers of social movements and people engaging in collective action than ever before (Nardini et al., 2021; Ortiz et al., 2022). Notable examples include the School Strike 4 Climate movement, where millions of people worldwide were involved in what was argued to be the world's biggest climate protest in history in 2019 (Laville & Watts, 2019), and the resurgence of the Black Lives Matter movement in 2020 (Gürcan & Donduran, 2021). Since the beginning of writing this thesis, in Australia, we have witnessed mass displays of solidarity for Ukrainians and Palestinians, ongoing climate change protests, campaigns around gender equality and domestic violence, and mobilisation around the campaign for (and against) establishing an Indigenous Voice to Parliament. Understanding the motivations that drive people to participate in such movements is of ongoing societal importance, as participation is essential for the success of social movements seeking to achieve justice and improve conditions for people experiencing disadvantage.

Within social psychology, these behaviours are conceptualised as collective action. *Collective action* refers to any action that is taken by an individual to improve conditions for the whole group (Wright et al., 1990). While often referring to actions taken by disadvantaged groups to improve their position, collective action can be taken by groups of any status (Becker, 2012). Collective action can also be taken by members of opinion-based groups wherein some group members do not themselves experience disadvantage but take action based on shared political opinions about how the world should be (Bliuc et al., 2007). The motives of disadvantaged group members who take collective action are rarely called into question, because members of disadvantaged groups are presumed to benefit from a change in the status quo and

act because they care about improving conditions for themselves and their ingroup (Wright et al., 1990). For advantaged group members, however, there has been much speculation on the motives of people whose actions are ostensibly taken to benefit others (Radke et al., 2020).

One notable example of an instance where the motives of advantaged group members was called into question in recent years was the Blackout Tuesday event, which occurred as part of the resurgence of the Black Lives Matter movement following the murder of George Floyd by police in 2020. More than 28 million people, many of whom were acting as advantaged group allies, posted black squares on Instagram to declare their support for the movement (Sinanan, 2020). However, this action was widely criticised as reflecting social media users' desire to maintain their moral image or mitigate guilt by posting a symbolic gesture without exerting much effort to actually aid the movement, and even hindering the movement by 'burying' relevant information and resources (Wellman, 2022). The criticism in response to Blackout Tuesday reflects a growing sentiment that many people who participate in collective action for social change do so to obtain some personal benefit, not because they are truly invested in the cause.

In the collective action literature, the term *performative allyship* (see Kutlaca & Radke, 2023) has emerged in recent years to refer to actions that are taken by advantaged group members seemingly to support a disadvantaged group, but are actually performed for self-serving reasons such as to portray oneself as moral or alleviate guilt. These types of motives reflect a desire to *look good* or to *feel good* and are contrasted with genuine concern for those affected and a commitment to achieving justice and improving conditions for disadvantaged groups. The motive to look good has been explored particularly in the context of collective actions that take place online (e.g., on social media; see Greijdanus et al., 2020 for an overview)

as these actions are often public and highly visible to others. This idea is reflected in the popular term *virtue-signalling*, which refers to actions that are taken ostensibly to support a cause but are motivated by a desire to portray oneself as moral (Westra, 2021). Similarly, the motive to feel good is reflected in the *slacktivism* analysis, which suggests that people take symbolic actions to feel good about themselves and alleviate any guilt associated with non-participation, but do not engage in any more effortful actions (Cornelissen et al., 2013). The problem with motives to look or feel good is that these goals may be easily satisfied by taking low cost, low effort actions and thus may not motivate people to engage in the more sustained, effortful action required to achieve lasting social change (Skoric, 2012). Radke et al. (2020) argue that allies who are driven by a genuine desire to aid the disadvantaged group will choose the most effective actions to align with this goal; in contrast, allies driven by self-focused motivations such as to protect their own image or that of their ingroup will only take actions that do not have a cost to themselves. Thus, although there may be greater numbers of people taking action for social change, the quality and impact of this action has been called into question.

My research addresses this debate by suggesting that there are qualitatively distinct motivations underlying engagement in collective action for social change. I propose that understanding these motives can help us to understand when people engage in actions that are effective and sustained. People may participate because they care about the cause and want to achieve social change, or for more self-oriented goals such as to portray themselves as moral or to avoid guilt, or they may be driven by a combination of these motives. As such, I propose that there are variations not only in the strength or degree of motivation to act, but also in the *quality* of the underlying motivation.

Research suggests that the underlying motives of people who engage in collective action are important determinants of their behaviour. For example, Cornelissen et al. (2013) found that people who were given the opportunity to take a symbolic action were subsequently less likely to engage in more meaningful action, due to a moral licensing effect where they felt they had fulfilled their moral obligation to act and were therefore 'off the hook'; however, this effect only occurred for people who were driven by reputational concerns. People who act for personal benefit, such as experiencing positive feelings or reputational rewards, are also less likely to be motivated to sustain their action when they perceive that these goals have been fulfilled, or the reward for continuing to take action is diminished (Kristofferson et al., 2014). Thus, understanding the diversity of these motives may help to better understand when and why action is ongoing and committed, versus self-interested and/or fleeting.

To understand the range of motivations that people may have for engaging in collective action, and the impacts of these motives, I propose an integration between self-determination theory and the social identity approach. Self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000) may help to understand these differences in motivation as it explores discrete types of motives and their implications for behaviour, but focuses primarily on individual or inter-individual behaviour and has not been extensively considered in the collective action literature. On the other hand, the social identity approach (Tajfel & Turner, 1979; Turner et al., 1987) recognises the importance of group processes as drivers of collective action behaviour and explores group-level motivations such as social identification. However, the social identity literature on this topic has not systematically addressed the possibility that that there may be variations in the type or quality of different group members' motives (but see Kutlaca et al., 2020; Radke et al., 2020 for a related approach). Thus, together, the two theories may be able to

shed light on the role of motivation in effecting social change (see also Amiot et al., 2020; Ferguson et al., 2015; Thomas et al., 2017).

A core proposition of my thesis is that an integration between social identity theory and self-determination theory can help us to better understand three specific aspects of collective action: its quantity, longevity and persistence. First, I propose that those who engage in collective action in support of a social movement are not a single homogenous group. Rather, there are meaningful subgroups among supporters of a cause that can be distinguished by their underlying motives (see Thomas et al., 2024). Some supporters are motivated by their desire for social change (as considered by, e.g., Agostini & van Zomeren, 2021; Bliuc et al., 2007), while others may be motivated by reputational (e.g., Kristofferson et al., 2014) or ego-enhancing reasons (e.g., Skoric, 2012). Throughout the thesis, I will examine the proposition that these supporters have distinct characteristics and patterns of behaviour, and the quality of motivation is key to understanding the *quantity* or volume of commitment to action.

Second, understanding these different underlying motives can help us understand when and why people sustain their action over time, or act relatively fleetingly. I propose that motives characterised by genuine commitment to the cause will play a key role in sustaining collective action engagement (see also Thomas et al., 2021), while more external or self-serving motives will not lead to long-term involvement. Thus, examination of the quality of motivation helps to explain the *longevity* of action. Finally, understanding the underlying motives of people who engage in collective action can also help us understand when people will persevere after experiencing setbacks or failure (see also Lizzio-Wilson et al., 2021). I propose that underlying motives characterised by commitment to the cause will buffer the demotivating effects of failure and lead to *persistence* after facing setbacks.

In the review that follows, I will first provide an overview of the discrete motives outlined in self-determination theory, then discuss how the combined insights of self-determination theory and the social identity approach may help to better understand the role of motivation in collective action. I will then elaborate on the three propositions outlined above and outline how they will be addressed in the empirical chapters to follow.

## Discrete Types of Motivation and their Impacts on Collective Action

Current approaches recognise that collective action occurs as an outcome of three interconnected motivations: social identification, emotions, and efficacy (van Zomeren et al., 2008). A meta-analysis of over two hundred studies in diverse contexts shows that these three motives, as well as moral conviction, consistently predict engagement in collective action (Agostini & van Zomeren, 2021). Furthermore, social identification with a group – reflecting a belief that its values and characteristics are central to one's sense of self and who they are – has been identified as a motivator of sustained action over time (Bilali et al., 2020; Thomas et al., 2021), and persistence in the face of setbacks (Tausch & Becker, 2013). However, in these social identity-based models of collective action, the key motivators (e.g., identity, efficacy) are conceptualised in terms of the *degree* or strength of the motivator in linear terms wherein stronger motivation results in greater action. In this thesis, I take a different approach to motivation and consider the proposition that alongside these characteristics, people can also vary categorically in the *type* and quality of the motives that drive their action.

Rather than focusing on the degree or strength of overall motivation, *self-determination theory* argues that there are qualitatively different forms of motivation that can have different outcomes on behaviour, including implications for persistence and wellbeing (Ryan & Deci, 2017c). Behaviour varies in the degree to which it is autonomous – defined as being self-

determined and performed of one's own volition – or controlled, meaning that it is coerced by pressures external to the self. The different types of regulation, and their connection with collective action, are presented in Table 1 below.

Self-determination theory is a broad theory which consists of several sub-theories addressing different aspects of the relationship between motivation and goal pursuit. One of its main propositions is that people have three key psychological needs of competence, relatedness, and autonomy, and behaviour is experienced as autonomous and authentic to oneself when it satisfies these needs (Ryan & Deci, 2000). However, in this thesis, I focus primarily on the *organismic integration theory* which addresses the continuum of autonomous (versus controlled) motivation (per Table 1). It is beyond the scope of the thesis to review all elements of self-determination theory and the role of need satisfaction is not considered in the empirical work, though I will return to the psychological needs in the General Discussion.

**Table 1**

*Types of Regulation according to Self-Determination Theory (Ryan & Deci, 2000).*

| Type of regulation | Autonomous (internal) vs. controlled (external) | Definition | Example |
|---|---|---|---|
| Amotivation | N/A (non-regulation) | 'Going through the motions' without valuing the behaviour or expecting to achieve any desired outcomes. | 'I have no reason to participate in efforts to bring about social change. I don't think it will achieve anything.' |
| External regulation | Controlled | Behaviour is performed for reasons external to the self and is motivated by reward or punishment. | 'I participate in efforts to bring about social change so my peers will think that I am a good person.' |
| Introjected regulation | Controlled | External regulations are 'taken in' but not personally valued; behaviour is motivated by shame, guilt, anxiety, pride, or self-esteem. | 'I participate in efforts to bring about social change because it makes me feel like I am a good person.' |
| Identified regulation | Autonomous | Behaviour is personally valued and accepted as true to the self as its outcomes are consistent with one's goals. | 'I participate in efforts to bring about social change because I want to achieve social change.' |
| Integrated regulation | Autonomous | Behaviour is highly meaningful and associated with one's deeply held values; it is assimilated with other aspects of self. | 'I participate in efforts to bring about social change because my passion for this cause is a core part of who I am.' |
| Intrinsic motivation | Autonomous | Behaviour is performed for the enjoyment of the activity with no focus on future goals or outcomes. | 'I participate in efforts to bring about social change because it is interesting and fun.' |

As can be seen in Table 1, the continuum of self-determination may shed some light on the different motivations that underlie collective action. Controlled actors may be motivated by reputational gains or a desire to avoid social punishment (external regulation). Alternatively, they may be motivated by guilt over not participating, or a desire to feel good about themselves (introjected regulation). In contrast, autonomous actors may be motivated by a desire to achieve social change (identified regulation), their commitment to the cause may be a key aspect of their core values and sense of self (integrated regulation), or they may find the experience of participating in collective actions inherently interesting and rewarding (intrinsic motivation). Thus, self-determination theory suggests that people can exist along various motivational profiles, and these differences in motivation have different implications for behaviour.

**Behavioural implications of different types of motivation**

Autonomous motivation has been found to be associated with greater performance and persistence in a number of areas. Vallerand et al. (1997) conducted a large study in Canadian high schools showing that the more autonomously motivated students were, the less likely they were to drop out. Similar patterns have been found in various contexts such as health care (Williams et al., 2004) and sports (Pelletier et al., 2001), showing that greater autonomous motivation for behaviour is associated with increased engagement and persistence. Autonomous motivation also predicts resilience in the face of failure and reduced susceptibility to disengage from goals when faced with setbacks, compared to controlled motivation (Holding et al., 2017; Sheldon & Elliot, 1998). To date, the literature has primarily focused on educational attainment, exercise behaviour, and organisational outcomes (see Ryan & Deci, 2017c for an overview).

Only a handful of studies have extended the insights of self-determination theory to consider motivations underlying political engagement. Koestner et al. (1996) surveyed Canadian voters before an election and found that identified regulation was associated with actively

seeking information about the candidates and actual voting behaviour, while introjected regulation was not. In a study on recycling behaviour, Koestner et al. (2001) found that participants with high introjected motivation were vulnerable to persuasion by anti-recycling messages if they came from an attractive source. A study by Ferguson et al. (2015) found that integrated regulation predicted both online and offline support for charitable causes, while introjected regulation predicted only online actions such as sharing and commenting on posts. Thus, although both groups may be highly motivated, those driven by controlled motivation are less committed, more vulnerable to persuasion, and ultimately less likely to act.

If autonomous motivation leads to committed collective action behaviour, while controlled motivation does not, then we might also be interested to know how this motivation develops and whether it can change over time. Self-determination theory argues that behaviours that are initially experienced as controlled can be internalised over time and become more self-determined. *Internalisation* refers to the 'taking in' of external values, beliefs, or behavioural regulations so that they are accepted as part of the self and integrated with one's identity and values (Ryan & Deci, 2017c). Although this is beyond the scope of the current project, understanding the factors that enhance or impede internalisation may ultimately help to understand the circumstances that lead individuals to engage in performative action, and those that lead to committed action. Furthermore, it may provide useful insights to understand whether and how more externalised, performative actors can be encouraged to become autonomously committed to the cause.

**Implications and theoretical gap**

While self-determination theory provides a detailed account of internalisation and motivation, it primarily addresses motivation and behaviour at the intra-individual level and does not consider the role of group memberships and social identities. Recent literature has focused on

an integration between self-determination theory and the social identity approach to explore how intergroup behaviours such as helping and harmdoing can be internalised (Amiot et al., 2020; Amiot et al., 2012; Thomas et al., 2017), and how the core psychological need of autonomy impacts social groups and their engagement in collective action (Kachanoff et al., 2022; Kachanoff et al., 2019; Kachanoff et al., 2020). I aim to extend on this research by exploring how the continuum of motivation in self-determination theory applies to people who participate in collective action, a topic which has not received much previous attention (but see Ferguson et al., 2015; Lilleker & Koc-Michalska, 2018).

Within self-determination theory, it is recognised that people can have multiple identities, and these identities can include membership of groups that may be shared with others (e.g., cultural groups; Ryan & Deci, 2012). However, it holds a relatively static view of the self as an individual who may identify with these groups to satisfy their personal needs and goals (see Ryan & Deci, 2012 for a detailed discussion), and does not provide a framework for understanding dynamic group processes. To understand motivation for engaging in collective action, it is important to consider how group-level factors, such as the norms and expectations of other group members, can influence the individual and vice versa, reflecting a dynamic interactionist approach. However, self-determination theory does not consider the influence of the individual's psychology and behaviour on that of the group, or how group factors may influence the individual's motivation. It is therefore a theory which is primarily designed to address motivation in the pursuit of individual goals. I suggest that the insights of social identity theory fill this conceptual gap and thus are also necessary to understand the role of motivation in collective behaviour that is underpinned by identification with and commitment to a social group.

## Social Identification as a Driver of Collective Action

All collective action is conceptually underpinned by social identification, as, by definition, it involves individuals acting not only in their own self-interest but with the goal of enhancing the position of a group of which they are a member (e.g., Tajfel, 1981; van Zomeren et al., 2008; Wright et al., 1990). Indeed, the social identity approach is the primary theoretical approach to understanding collective action (see Agostini & van Zomeren, 2021). The social identity approach posits that as well as an individual identity, people have social identities that are derived from the groups they belong to (Tajfel & Turner, 1979). When a social identity becomes salient, people act as a group and their behaviour is guided by norms, values, and goals that are shared among members of the group (that is, other people who also see that group as relevant to 'who they are'). Such behaviour can include collective action aimed at enhancing (or maintaining) the position of the group, often by promoting (or preventing) system-wide social change (Simon & Klandermans, 2001; Thomas et al., 2022; van Zomeren et al., 2008). Current approaches within social identity theory focus on moral conviction, identification, injustice, and efficacy as the core motivators to engagement in collective action (Agostini & van Zomeren, 2021). Social identification precedes perceptions of group-based injustice and group-based efficacy, which then lead to collective action (van Zomeren et al., 2008). Alternatively, shared experiences of anger at injustices and perceptions of group efficacy can provide the basis for new opinion-based or politicised group identities to form, which then drive collective action (Bliuc et al., 2007; Thomas et al., 2012).

However, it cannot be assumed that all group members are equally motivated to enhance the group's goals and will choose to engage in collective action. Social identity theory suggests that people are motivated to have positive social identities, which occurs when the group is

successful or achieves positive differentiation from other groups; however, this is primarily important to those who are strongly identified with the group (Haslam, 2004). Barreto and Ellemers (2000) found that when given a choice between a group-enhancing or self-enhancing action, high identifiers chose group enhancement regardless of whether their choice was public or private, while low identifiers chose group enhancement only if they were accountable to the group. This suggests that high identifiers are strongly committed to the group and its goals and values, while low identifiers may be motivated to act to advance the group partially due to reputational concerns or to maintain status within the group but are willing to abandon these goals when the costs outweigh the personal benefits. However, the implications of these observations have been little explored.

### Implications and theoretical gap

The social identity approach explains how actions are influenced by group norms, values, and emotions, and is the main approach used in social psychology to explain the antecedents and patterns of collective action. It also predicts different patterns of behaviour for high and low identifiers and suggests that different motivations may underly their group-enhancing behaviour. However, beyond identifying the degree (or strength) of commitment (i.e., social identification), the social identity approach does not systematically address these different types of motivation and how they might impact collective action behaviour (Amiot et al., 2020). Thus, to overcome this limitation, we draw on the insights of self-determination theory on different types of motivation, their antecedents, and implications for behaviour to address differences in collective action behaviour.

## Collective Self-Determination

Recently researchers have argued for an integration of social identity theory and self-determination theory to explain differences in motivation for behaviours that occur in intergroup

contexts and are driven by social, rather than personal, identity (Amiot et al., 2020; Kachanoff et al., 2019; Thomas et al., 2017; Thomas, McGarty, et al., 2019). In an individual context, autonomously motivated behaviours are those that are consistent with one's individual goals, values, or sense of 'who I am'. In a collective context, these are behaviours that reflect values associated with a particular social identity and are reflective of 'who we are' as a group. This is termed *collective self-determination* (Thomas et al., 2017; Thomas, McGarty, et al., 2019). In the context of group membership, people want to feel that their group is free to express its values and identity among outsiders or other groups, but also that they are free to adhere to the norms of their group because they personally value doing so (Kachanoff et al., 2020). Thus, individuals' group-based behaviour (i.e., enactment of group norms and pursuit of group goals) can also vary in the extent to which it is experienced as self-determined.

Collective self-determination has been studied in the context of intergroup helping (Thomas et al., 2017), harmdoing (Amiot et al., 2020), and commitment to social change (Thomas, McGarty, et al., 2019). Similar to individual self-determination, behaviour that is experienced as collectively self-determined has positive implications for outcomes such as wellbeing, pride in one's group, and individual participation in helping behaviour (Thomas et al., 2017). However, a key point of difference between individual and collective self-determination is that group processes also influence the degree to which collective self-determination is experienced. For example, Kachanoff et al. (2019) experimentally manipulated the extent to which participants felt that their collective autonomy as a group was restricted, that is, that they were prevented from expressing their own identity and practices by outgroups. When group autonomy was restricted, participants also felt that their personal autonomy (i.e., freedom to do as they chose) had been restricted, demonstrating that personal psychological needs are

intrinsically intertwined with the need fulfillment of the group. This work was later extended to show that groups are also characterised by the three needs of competence, relatedness, and autonomy, and the satisfaction of the group's needs plays a key role in people's experience of their personal need fulfillment (Kachanoff et al., 2020).

One consideration in theoretical integration is that it is important to avoid applying a reductionist approach and assuming that the role and the nature of the types of motives outlined in self-determination theory at the inter-individual level will similarly apply to the group level. Indeed, the social identity approach emerged in an attempt to combat such approaches and emphasises the importance of considering group processes and social influence, and the dynamic interaction between personal and social factors (see Turner & Oakes, 1986). In the context of group behaviour, individuals' motivation is informed and influenced not only by their own internal processes, and external pressures (such as rewards and punishments imposed by other individuals and institutions) but also by the perceived motives of others within their group (Thomas et al., 2017) and individuals' feelings of not only their group's collective autonomy, but also their personal autonomy as a member of the group (Kachanoff et al., 2020). In the chapters that follow, I therefore consider the nature of the motives described in self-determination theory and how these motives may function differently in the pursuit of collective goals.

One key influencing factor in the development of autonomous and controlled motivation may be the strength of social identification, though this claim has not yet been tested. Self-determination theory posits that behaviour is regulated by how much it is internalised as important to 'who I am' or 'who we are', but so too is the process of identity formation, which can vary in the extent to which it occurs autonomously or is controlled (Ryan & Deci, 2017a; Soenens et al., 2011). Identity formation can be driven internally, by one's disposition, interests

and values, or by external pressures, which, in turn, affect individuals' motivation for engaging in behaviours and adopting norms associated with those identities (Soenens & Vansteenkiste, 2011). I propose that social identification, particularly with opinion-based or politicised groups (see Simon & Klandermans, 2001), and autonomous motivation are mutually reinforcing processes. Opinion-based group identities form when members communicate shared values and beliefs about how they think the world should be (Thomas, McGarty, & Mavor, 2016); they are thus predicated on a sense of autonomously valuing and caring about a particular cause or social issue. Conversely, the more strongly people identify with a social identity, the more they hold the group's goals and norms as personally important and central to their sense of self (Ellemers et al., 1997); thus, stronger identification should lead to internalisation of the group's goals and result in stronger autonomous motivation to act. I discuss this reciprocal relationship in more detail in Chapter 3.

## The Thesis

The combined insights of self-determination theory and social identity theory have not yet been systematically applied to the domain of collective action but may be useful to help address unanswered questions about the motives for engaging in collective action, and the quality and impact of such actions. Together, the two theoretical perspectives can provide insight into the debate on the role of genuine support versus performative allyship and virtue-signalling in movements for social change. I will now return to the three key propositions outlined earlier and elaborate on these in the context of the literature discussed above.

*Proposition 1: There are meaningful subgroups among supporters of a movement that can be distinguished by their underlying motives.*

I first propose that there is a distinction to be made between supporters of social change who are driven by different forms of motivation – these supporters differ not only in the degree of motivation but in the *type* of motivation. This is in line with recent recognition that subgroups are part of the overall picture of collective action where some group members engage in behaviours that are distinct to others (Álvarez et al., 2023; Osborne & Sibley, 2017; Thomas et al., 2024). Some actors may be driven by more self-determined motives than others, while some may also hold multiple motives simultaneously. Examining the possibility that subgroups may be present among supporters of the same cause allows for a potential distinction to be made between supporters who are 'slacktivists', 'virtue-signallers', or 'performative allies', as distinguished from 'activists' or 'genuine allies' who are passionately committed to the cause. The distinction between different subgroups of supporters may be helpful to understand the patterns of identification, emotions, and behaviours (following van Zomeren et al., 2008) of those who act out of commitment to the cause versus those who do so for external reasons.

Self-determination theory posits that aspects of the environment that infringe upon people's perceptions of autonomy can inhibit internalisation of values and regulations. In the modern environment where much of our engagement in political discourse and actions occurs online (Chon & Park, 2020), participation is often very public (e.g. posting about a cause on social media), and thus there may be increased pressure to display one's involvement in collective action to attain social approval (Lilleker & Koc-Michalska, 2018). Thus, the online environment may be particularly prone to fostering controlled motivation for engaging in collective action, in line with research suggesting that when people are given an opportunity to

take a public or symbolic action, they are less likely to then engage in more meaningful actions (Cornelissen et al., 2013; Kristofferson et al., 2014; Schumann & Klein, 2015).

However, I argue that there will also be autonomously motivated actors who strongly identify with an opinion-based group and engage in action (whether online or offline) because they are genuinely committed to the cause. Meta-analytic findings suggest that social identification remains a key predictor of engagement even in modern, online spaces, particularly when identification is with an emergent opinion-based group deriving from its members' beliefs and values (Akfırat et al., 2021; see also Thomas et al., 2015). Furthermore, while Schumann and Klein (2015) found that engaging in online action derailed further engagement in offline action, they showed that this was because participants felt that they had successfully advanced their group's goals, and not because they had satisfied a self-serving goal. Thus, I propose that there may be autonomously motivated actors who experience their behaviour as self-determined and important to their sense of 'who they are' (i.e., social identity), but also those whose action is driven by more externalised motives to look good or feel good. The distinction between controlled and autonomously motivated collective action may help to shed light on the performative allyship debate described above and adjudicate whether different types of supporters, as defined by their underlying motives, differ on key characteristics including the quantity and intensity of their actions.

In Chapter 2, I report the results of two cross-sectional studies where we sampled self-identified supporters of refugees and examined their underlying motives for acting to promote global action to support refugees. We adopted a person-centred approach that is relatively novel in the field of collective action (Thomas et al., 2024) and is well-suited to identifying different types or subgroups of individuals within a larger sample. We identified subgroups of supporters

who meaningfully differed based on their (self-reported) underlying motives for supporting the cause. We examined predictors and outcomes of belonging to each of these subgroups and found that the patterns of behaviour were different across subgroups; both autonomous and controlled motivation played a key role in predicting the intensity of action taken.

*Proposition 2: Autonomous motivation leads to greater longevity of action compared to controlled motivation.*

The combined insights of social identity theory and self-determination theory may also be useful to predict differences in patterns of collective action behaviour, and in particular when collective action is sustained over time. Understanding the factors that promote or discourage sustained effort over time is crucial to the success of movements seeking dramatic social change, as they typically take years or decades to achieve their goals, but these factors are relatively little examined (Selvanathan & Jetten, 2020). I argue that the nature and quality of the actor's motivation is a key factor determining the extent to which they continue or increase their involvement in action over time. In keeping with the evidence from self-determination theory (Ryan & Deci, 2017c), autonomously motivated supporters will be more likely to sustain their action long-term, as they are committed to the goal of achieving social change. In contrast, supporters driven by controlled motivation who seek to enhance their reputation, avoid social punishment, or enhance their ego will find that minimal engagement satisfies these goals and will not be motivated to seek out further opportunities to contribute to the cause. Indeed, studies on self-determination theory in various domains consistently show that autonomous motivation is associated with greater long-term engagement with an activity, including education (Vallerand et al., 1997), healthcare (Tam et al., 2019; Williams et al., 2004), and sporting (Hutmacher et al.,

2020; Pelletier et al., 2001); however, no research has yet explored the role of autonomous and controlled motivation in the longevity of collective action.

It is also important to note that motivation is not expected to be stable over time. On the contrary, self-determination theory argues that internalisation and externalisation is an ongoing process, and motivation may change based on aspects of the environment such as whether it is perceived to be controlling, or supportive of the actor's autonomy (Ryan & Deci, 2000). Experiences of participating in collective action may strengthen one's identification with an opinion-based group and may result in internalisation where such behaviour is 'taken in' as part of the self; indeed, literature on the outcomes of collective action suggests that involvement in protests is itself a life experience that can lead to psychological transformation and shape social identification (Drury & Reicher, 2005; Thomas et al., 2022; Vestergren et al., 2017). However, these changes cannot always be assumed to be positive; particularly in the modern environment, the public nature of online actions may provide external incentives for participation and inhibit people's feelings of autonomy, as it activates impression management concerns (Kim et al., 2023; Kristofferson et al., 2014). Thus, those who are initially autonomously motivated may become more controlled, and vice versa, due to their experiences participating in collective action or changes in their environment over time. I therefore propose that increases in autonomous motivation will predict greater participation over time, while increases in controlled motivation will predict reduced participation over time.

In Chapter 3, I report the results of a longitudinal study examining the motivations, opinion-based group identification and collective actions of supporters of the movement to combat global poverty. We adopted a longitudinal approach to this study to explore the effects of autonomous and controlled motivation over time; specifically, we conducted latent change score

models which can identify associations between changes in different variables (Könen & Auerswald, 2021). We examined how changes in motivation predicted changes in the frequency and intensity of collective action engagement, and how initial levels of motivation predicted the longevity of action and the extent to which it was sustained over a one-year period.

*Proposition 3: Autonomous motivation buffers the demotivating effects of failure and leads to persistence and increased effort.*

Movements that seek to achieve lasting social change not only require long-term commitment but also often experience setbacks, as they can be faced with opposing groups mobilising to block or reverse a desired social change or seeking to achieve opposing goals (Lizzio-Wilson et al., 2021). Thus, I also consider whether autonomous motivation may play a key role in promoting resilience and persistence in the face of setbacks or failure. People who are autonomously motivated to pursue their goals are more willing to exert greater effort to attain these goals (Holding et al., 2017) and thus are more likely to continue or increase their efforts following setbacks. I expect that these findings will extend to a collective action context wherein among supporters of a movement that has experienced failure, autonomous motivation to act in support of the movement will predict sustained action after failure.

In Chapter 4, I discuss three experimental studies in which we examined the effects of autonomous motivation on collective action and compared the nature and strength of these effects between supporters who experienced failure and those who experienced success. Thus, we used moderation analyses to examine how the role of autonomous motivation differed in these contexts. We expected that the role of autonomous motivation as a driver of action would become more important for those who experienced failure and thus may be tempted to disengage from the movement goals. We found that the relative importance of autonomous motivation as a

driver of action after failure or success depended on the context of the movement goals (i.e., whether they were specific or broad).

*Theoretical debates*

In addition to the three propositions outlined above, my work engages with several theoretical debates within self-determination theory and explore how the findings within each chapter align with these perspectives. I also consider how the arguments of each theoretical debate may apply differently in the collective context. As such, my research avoids assumptions that the tenets of self-determination theory will apply straightforwardly in a collective context, and I consider how the nature and structure of the motives outlined in self-determination theory may be impacted by dynamic group processes.

Firstly, within the self-determination literature, there is an ongoing debate about the construct of controlled motivation. Although introjected and external regulation have traditionally been considered as subtypes of controlled motivation, often analysed as a single construct, some researchers argue for introjected regulation to be considered separately as a partially internalised form of motivation representing a middle ground between external and autonomous motives (Howard et al., 2017; Howard et al., 2020). Introjected regulation is considered to be partially internalised as, while it does not reflect values and goals that are fully integrated with the individual's sense of self, it is not externally imposed as it hinges on emotional or evaluative contingencies (e.g., impacts on self-esteem, feelings of guilt or pride) that occur within the individual (Ryan & Deci, 2000). Thus, it is controlled by oneself, not by external others. Some studies that show clear positive effects of autonomous motivation and negative effects of external regulation find mixed effects for introjected regulation; for example, that is has positive effects on some outcomes but negative effects on wellbeing (Ng et al., 2012;

Nie et al., 2015; Ryan & Connell, 1989), that it promotes behaviour in the short-term but not in the long-term (Pelletier et al., 2001), and that it has positive effects on behaviour but leaves people open to dissuasion (Koestner et al., 2001). Research on commitment and burnout of environmental activists has found no effects of introjected regulation (Sheldon et al., 2016). In each chapter, I consider the study findings in the context of this debate.

One of the key arguments I make in the chapters to follow is that introjected and external regulation are not as straightforwardly controlled in a group context. Introjected regulation is conceptualised as acting because one's self-directed emotions and evaluations (e.g., guilt, pride, or self-esteem) depend on the behaviour, rather than a genuine valuing of its outcomes (Deci & Ryan, 2008). However, in a group context, people are more likely to experience feelings of guilt for transgressing against group norms if they strongly identify with that group, which can then motivate behaviour change to realign with the group's expectations (Giguère et al., 2014). Indeed, it is those who are most strongly identified with their group who feel the greatest sense of obligation to act as a 'good' group member (Stürmer et al., 2003). Furthermore, surveillance or pressure from others to conform is traditionally considered as an external motive, but may not be as straightforward in a group context when this pressure could stem from other group members and thus may not be truly external to one's (social) identity. Introjected and external motives may therefore be aligned with social identification in some contexts and may not always be experienced as controlling.

Second, there is an assumption within self-determination theory that autonomous and controlled motives should not co-exist. The distinct types of motivation sit on a continuum from least self-determined (amotivation) to most self-determined (intrinsic motivation) and thus it is assumed that increases in autonomous motivation (i.e., the process of internalisation) should be

associated with decreases in controlled motivation (Deci et al., 1994). Numerous studies show that extrinsic rewards can diminish the role of internalised motivation in driving effort (see Deci et al., 1999 for a meta-analysis), though more recent research suggests that this only occurs when rewards are presented in a controlling way (Jacobsen & Jensen, 2017; Thibault Landry et al., 2020) or for complex tasks for which internalised motivation is typically more important than simple tasks (Hewett & Conway, 2016; Weibel et al., 2014). It is argued that the presence of external factors such as rewards or surveillance can 'crowd out' autonomous motivation because it shifts the focus from internal to external goals (Gagné & Forest, 2008). However, person-centred analyses within self-determination theory provide evidence that these motives do co-exist, as they find subgroups of people who are high in both types of motivation (Geiser et al., 2014; Gillet et al., 2017; Levesque-Côté et al., 2021). Thus, while the continuum structure of motivation is a longstanding proposition of self-determination theory, it is becoming increasingly contentious in the literature. Throughout the chapters to follow, I also present further discussion on the self-determination continuum, and how and why it may differ in the context of collective goals.

Finally, in Chapter 5, I present a summary and general discussion of the findings and draw conclusions regarding the role of autonomous and controlled motivation in driving collective action. I conclude with a discussion of the implications for collective action research and for practice, and future research directions.

# Chapter 2

## Motivations to Engage in Collective Action: A Latent Profile Analysis of Refugee Supporters

## Context Statement

The key proposition of this thesis is that people who take action in support of a social movement can be driven by distinct underlying motives that vary in their nature and quality. This chapter investigates this claim using person-centred approaches to identify distinct subgroups of people among supporters of action to support refugees, and examines how they meaningfully differ on the basis of their underlying motives. It also addresses the first of the three claims outlined in the introduction of this thesis: that the type of motivation can predict the *quantity* of collective action.

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**Abstract**

What motivates people to participate in collective action? Some actions such as symbolic or online actions are often critiqued as performative allyship, motivated by personal gain rather than genuine concern for the cause. We aim to adjudicate this argument by examining the quality of motivations for acting, drawing on the insights of self-determination theory and the social identity approach. Using latent profile analysis, we examined whether there are different types of supporters of refugees based on their underlying motives. In Study 1, we surveyed supporters of Syrian refugees from six nations ($N$= 936) and measured autonomous and controlled motivation, pro-refugee identification, and collective action. In Study 2 ($N$= 1,994), we surveyed supporters of Ukrainian refugees in Romania, Hungary, and the UK. We found 4-5 profiles in each sample and consistently found that supporters with high autonomous motivation take more action than disengaged or ambivalent supporters (low/neutral on all motives). However, contrary to the tenets of self-determination theory, those high in both autonomous and controlled motives were the most engaged. We conclude that the most committed supporters are those with multiple motives, but further research is needed on the role of controlled motivation.

## Introduction

In September of 2015 a photo of a Syrian refugee toddler named Aylan Kurdi went viral after his body was found on a beach in Turkey while his family was fleeing conflict in Syria. The photo captured the world's attention and was shared widely on social media, garnering over 30,000 tweets in the first twelve hours after its publication (Vis & Goriunova, 2015). Several years later, Russia launched an invasion of Ukraine, resulting in nearly six million refugees fleeing Ukraine by the end of 2022 (UNHCR, 2023). These events also sparked an international wave of public displays of support for refugees, with #IStandWithUkraine trending online, Ukrainian flags displayed in homes and businesses, on bumper stickers, social media profiles, and more.

Posting on social media, displaying stickers and flags are all examples of what is sometimes critiqued as performative allyship (Kutlaca & Radke, 2023) – that is, low-cost, low-effort or symbolic actions that require little commitment from the actor. *Performative allyship* refers to solidarity-based actions taken by advantaged group members ostensibly out of concern for a disadvantaged group (such as refugees) but actually for self-serving reasons. For example, advantaged group members may want to feel good about themselves (known colloquially as slacktivism; Skoric, 2012) or portray themselves as moral and enhance their reputation (known as virtue-signalling; Westra, 2021). This may at least partially explain why, despite the initial surge of support for Syrian refugees, the movement had lost momentum a year later and did not achieve its desired social change of resettling tens of thousands more refugees (Thomas et al., 2018).

However, other research highlights the importance of solidarity-based actions, taken by advantaged group members, in achieving greater justice for disadvantaged groups (Subašić et al.,

2008). Advantaged group members' denouncement of injustice is often taken more seriously (e.g., Drury & Kaiser, 2014; Gulker et al., 2013) and they can effectively encourage others to support a movement, and can thus play a key role in contributing to social change (Kutlaca et al., 2022). Importantly, the critique of performative allyship focuses on the motivation behind the actions of allies and suggests that negative outcomes only occur when allies have self-serving motives. For example, Cornelissen et al. (2013) found that expressing symbolic support for a cause undermined people's willingness to take further, more meaningful action, but only if they were motivated by impression management. Understanding the motivations underlying solidarity-based actions may be key to understanding when allies take effective, meaningful action in support of disadvantaged groups, versus when action is fleeting, symbolic, or otherwise serves the needs of allies.

In this research, we examine whether there are distinctive subgroups of supporters that differ meaningfully based on their underlying motivations (see also Radke et al., 2020). For example, people may support refugees because it aligns with their beliefs and identity, or because it makes them feel like a good person, or both may be true. We anticipated that supporters driven by internalised motives would exhibit stronger commitment to (i.e., collective action, and identification with) the cause, relative to those motivated by more external factors such as guilt or reputation management. However, some supporters may be driven by multiple motivations simultaneously and by different combinations of motives. Accordingly, we adopt a person-centred approach (using latent profile analysis) to understand how different combinations of motives predict the extent of a supporter's commitment to action. We do so in the context of support for refugees fleeing the conflict in Syria in 2015 (Study 1) and Ukraine in 2022 (Study 2).

**Understanding Types of Motivation Using Self-Determination Theory**

We draw on the insights of self-determination theory, which provides a differentiated and fine-grained analysis of motivation that may help to understand variation in why people engage with social movements like those to support refugees (Deci & Ryan, 1985; Ryan & Deci, 2000; see Table 1). Within this theoretical perspective, the focus is not on the strength of motivation, but on the quality or nature of the motivation. Broadly, different types of motives fall into two categories. *Autonomous motivation* underlies behaviour that works towards a genuinely desired outcome and expresses the individual's identity and interests (Weinstein & Ryan, 2010). In contrast, *controlled motivation* refers to external pressures that drive behaviour, meaning it is less self-determined or personally valued (Sheldon & Elliot, 1998).

These broad categories can be broken down into more fine-grained subtypes of motivation existing on a continuum of self-determination. Autonomous motivation is comprised of three subtypes: *intrinsic motivation*, the most self-determined form of motivation which refers to enjoyment and interest in the activity itself (Burton et al., 2006), *integrated regulation*, when behaviour is highly meaningful and integrated with one's deeper sense of self, and *identified regulation*, when behaviour is personally important and consistent with one's goals, but not assimilated with other aspects of self (Ferguson et al., 2015). On the other hand, controlled motivation is comprised of two subtypes; *introjected regulation* involves attaining positive self-evaluations (e.g., feeling pride) or avoiding negative feelings such as shame or guilt (Koestner et al., 1996), while *external regulation* is the motive to gain rewards or avoid punishments (Deci et al., 1999).

**Table 2**

*The Subtypes of Motivation Outlined in Self-Determination Theory (Deci & Ryan, 1985).*

| | **Non-regulation** | **Controlled motivation** | | **Autonomous motivation** | | |
|---|---|---|---|---|---|---|
| | Amotivation | External regulation | Introjected regulation | Identified regulation | Integrated regulation | Intrinsic motivation |
| | *Least self-determined* → *Most self-determined* | | | | | |
| Definition | 'Going through the motions' without valuing the behaviour or expecting to achieve any desired outcomes. | Behaviour is performed for reasons external to the self and is motivated by reward or punishment. | External regulations are 'taken in' but not personally valued; behaviour is motivated by shame, guilt, anxiety, pride, or self-esteem. | Behaviour is personally valued and accepted as true to the self as its outcomes are consistent with one's goals. | Behaviour is highly meaningful and associated with one's deeply held values; it is assimilated with other aspects of self. | Behaviour is performed for the enjoyment of the activity with no focus on future goals or outcomes. |
| Example | 'I have no reason to participate in actions to support refugees. I don't think it will achieve anything.' | 'I participate in actions to support refugees because my friends will criticise me if I don't.' | 'I participate in actions to support refugees because I would feel bad if I didn't.' | 'I participate in actions to support refugees because I want to improve conditions for refugees.' | 'I participate in actions to support refugees because my passion for human rights is a core part of who I am.' | 'I participate in actions to support refugees because it is satisfying and rewarding.' |

Autonomous motivation has been found to predict greater engagement, performance, and persistence than controlled motivation in a range of contexts. People whose behaviour is more autonomous are less likely to drop out of high school (Vallerand et al., 1997), and more likely to engage in effective healthcare (Williams et al., 2004), persist at their chosen sport (Pelletier et al., 2001), and vote in elections (Koestner et al., 1996). However, there is minimal work examining these forms of motivation to engage in collective action (but see related approaches on outgroup discrimination; Amiot et al., 2014; Amiot et al., 2012; support for charitable causes; Ferguson et al., 2015; volunteering; Geiser et al., 2014). While self-determination theory traditionally examines how autonomous (vs. controlled) motivation drives behaviour towards personal goals (e.g., sporting achievements, education), we extend this to consider the role of motivation in pursuit of group goals (Amiot et al., 2020; Thomas et al., 2017).

**Outcomes of Autonomous and Controlled Motivation: Opinion-Based Group Identification and Collective Action**

In the present research, we seek to overcome reductionist debates about whether support is driven by self- or other-interested motives to distinguish between supporters of refugees who are driven by autonomous or controlled motivation, or combinations of both. We propose that these motives can predict the likelihood and frequency of supporters engaging in collective action, and the degree of identification with supporters of refugees. Self-determination theory suggests that autonomously motivated behaviour reflects one's authentic self, identity, and interests. In the context of collective action where a group-level self is a key predictor (Agostini & van Zomeren, 2021), autonomously motivated behaviour may be true to one's *social identity* and reflect one's deeply held, internalised commitment to the group (Turner et al., 1987). Thus, internalised motivation towards collective goals is closely linked with social identification (see

Chapter 3). We therefore propose that the underlying motivation will be associated with variation in opinion-based group identification as a supporter of refugees. Opinion-based group identities form on the basis that a stance on an issue is a core part of 'who I am,' and this internalised sense of agreement is shared among the group (Thomas, McGarty, & Mavor, 2016). Thus, these identities should be preceded by autonomous motivation; the more one is autonomously motivated to support refugees, the more likely they are to identify with a group whose norms and ethos is based on a shared support for refugees. In contrast, those who act for more external reasons are expected to report lower levels of internalised identification.

Autonomous motivation is associated with greater engagement in individual behaviour such as pursuing education or sport; we expect that this finding will extend to collective action and that people driven by autonomous motives to support a particular cause will take more action than those with controlled motives. Furthermore, the association between motivation and identification can also explain why some supporters are more committed to action than others, as opinion-based group identification is a well-established predictor of collective action (e.g., Agostini & van Zomeren, 2021; Bliuc et al., 2007; Thomas et al., 2022). Autonomously motivated supporters will identify more strongly with the group, and therefore take more action; in contrast, controlled motives have been shown to undermine group identification and, in turn, collective action (Chapter 3).

**Using a Person-Centred Approach to Adjudicate the Presence and Effects of Mixed Motives**

Some supporters may be driven by multiple motives simultaneously. That is, within people (and beyond the independent effects of autonomous and controlled motivation), some supporters may be high in both autonomous and controlled forms of motivation. Person-centred statistical approaches in self-determination theory have previously identified subgroups of people

high in both autonomous and controlled motivation (e.g., volunteering; Geiser et al., 2014; workplace engagement; Levesque-Côté et al., 2021) where mixed motives predict moderate levels of engagement relative to people motivated purely by autonomous (high engagement) or controlled motives (low engagement). We may similarly find that some supporters of refugees are driven by multiple motives and expect that such supporters will evidence moderate levels of engagement.

However, self-determination theory contends that controlled and autonomous motives lie on opposite ends of a continuum (Ryan & Deci, 2000) and should not co-occur, as influences that foster controlled motivation can crowd out autonomous motivation (Gagné & Forest, 2008). For example, in the context of refugee supporters, wanting to appear moral should reduce autonomous motivation as it shifts the focus to reputation management and away from the plight of refugees. As a result, controlled motivation would increase, but autonomous motivation – and, in turn, collective action – would decrease. A person-centred approach will help adjudicate whether individuals can hold mixed motives for supporting refugees, and whether it is the quality of motivation that matters for collective action (i.e., autonomous motivation alone is better than multiple motives) or quantity (multiple motives lead to more action).

**Motivation Develops Within Social and Cultural Context**

Self-determination theory contends that motivation is context-specific and is influenced by factors within the individual's environment. For example, school students with autonomy-supportive teachers are more likely to feel autonomously motivated to complete schoolwork, compared to those with coercive or controlling teachers (Ryan & Deci, 2000). We expect that context will similarly play a role in the motives that individuals develop to act in support of refugees. For example, collective action is more normative in some countries, and cultural

attitudes towards refugees vary. Social movements and their supporters are a product of the social and political contexts in which they form (Thomas et al., 2022; Uluğ et al., 2022) and the motivational quality of subgroups of supporters may differ across distinct socio-political contexts. Thus, in Study 1 we sample from multiple nations and in Study 2 we examine cross-national differences in the motives of refugee supporters.

## The Current Research

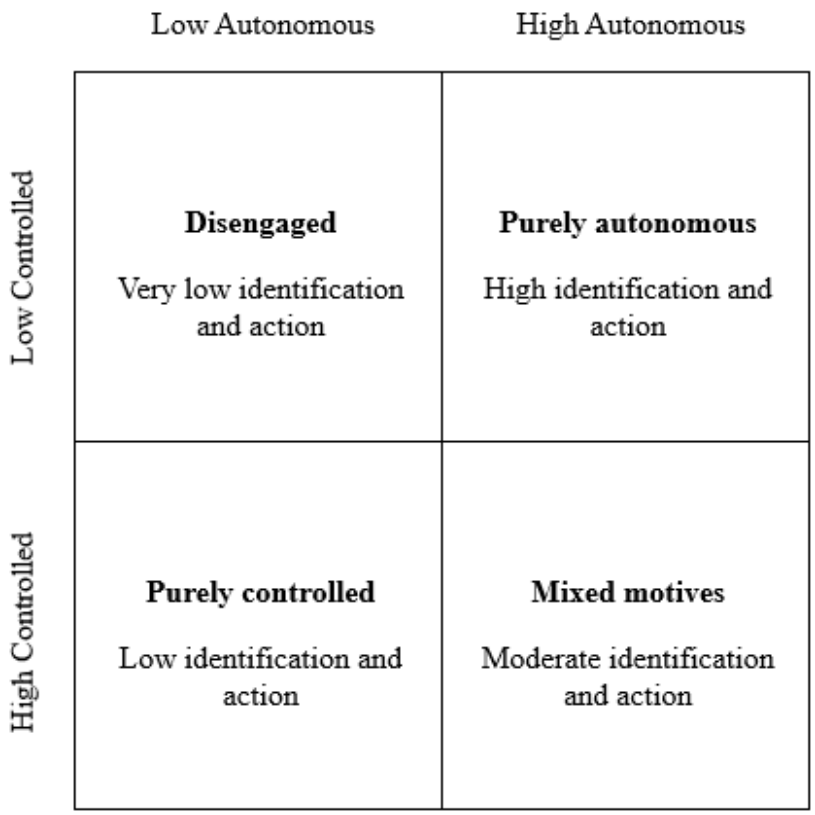
We tested the proposition that the underlying motivation for taking collective action differs among supporters of refugees. We conducted a latent profile analysis (LPA), a method used to identify subgroups of people based on shared characteristics that are different from other subgroups (Osborne & Sibley, 2017). LPA focuses on characteristics of people, rather than testing relationships between variables, and can identify subgroups of refugee supporters who meaningfully differ based on their underlying motivations (Thomas & McGarty, 2018). The advantage of this methodology is that it allows for the examination of diverse reactions to social issues and patterns of action engagement among supporters of a social movement (see, for example, Álvarez et al., 2023; Lizzio-Wilson et al., 2021) and does not assume that a single population is homogeneous. For detailed discussion on the use of LPA in collective action research, see Thomas et al. (2024).

It is important to note that LPA is inherently exploratory and inductive. The analysis is repeated with increasing numbers of profiles, and the optimal solution is determined based on statistical and theoretical fit (criteria described below). We did not have specific a priori expectations about the number and nature of profiles. Nevertheless, our approach was guided by theoretically derived expectations about the likely outcomes of (combinations of) autonomous and controlled motivation (see Figure 1). We expected that membership of profiles higher in autonomous motivation (i.e., those defined by higher levels of identified and/or integrated

regulation) would predict greater collective action and identification as a supporter of refugees than other profiles (H1). In contrast, membership of profiles higher in controlled motivation (i.e., those defined by higher levels of external and/or introjected regulation) would predict lower levels of action and identification than other profiles (H2). Profiles low in both types of motivation would predict the lowest levels of action and identification (H3). Profiles high in both types of motivation would predict moderate levels of action and identification (H4).

**Figure 1**

*Four Potential Combinations of Autonomous and Controlled Motivations and their Hypothesised Outcomes.*



*Openness and Transparency*

The hypotheses and analyses for Study 1 were pre-registered after data collection but prior to conducting analyses; see https://osf.io/fkp4t/?view_only=b6dc9eb0f59c4bf8a65dec0e8c3e3dc0. To minimise researcher degrees of freedom, we pre-registered that we would test for up to seven profiles, as the literature on self-determination theory tends to find a maximum of six (e.g., Geiser et al., 2014; Gillet et al., 2017). The process of assessing the number of profiles (*k*) with the best fit involves comparing the *k* -1 solutions. Therefore, we pre-registered testing up to seven so that we could empirically assess the 6-profile solution. We also pre-registered analyses testing for other predictors of profile membership, described in the supplementary materials in the interests of scope (for Study 1 and 2). The numbering of hypotheses here relative to the pre-registration therefore differs slightly. Finally, we conducted an exploratory analysis testing whether profile membership predicted engagement in specific actions, to test whether some profiles might be associated with taking more public and low-effort (i.e., potentially performative or slacktivist) actions relative to others, but do not report this analysis here as the findings were similar across different types of actions (see supplementary materials for details).

## Study 1

Data were collected in September and October 2015, at the height of the public response to Syrian refugees following the dissemination of the image of Aylan Kurdi. We surveyed participants in six countries who indicated that they support global action to support Syrian refugees. We only included supporters as we were interested in understanding motivations for acting to support refugees; such measures would not be meaningful for non-supporters. The identification and collective action measures were previously reported by Thomas, Smith, et al. (2019) however the focal measures of motivation have not been published nor have the data been

analysed in this way. We used integrated, identified, introjected, and external regulation as indicators to determine the profile structure. We used these subtypes of motivation rather than aggregate measures of autonomous and controlled motivation to provide a more fine-grained analysis; LPA can determine whether such a distinction is necessary as it will identify whether subtypes co-occur in the profiles. We tested how profile membership predicted opinion-based group identification as a supporter of refugees, and collective action using three measures: action intentions, self-reported past action, and a behavioural measure of donation.

## Method

### Participants

All participants gave informed consent before beginning the survey. We removed participants who indicated that they were not supporters of global action to support Syrian refugees, and were left with 955 participants, of whom 19 had data missing on all indicators. The final sample included 936 supporters recruited from Hungary (*N*= 100), Germany (*N*= 154), the UK (*N*= 144), the US (*N*= 201), Australia (*N*= 284) and Romania (*N*= 72). The sample was 59.1% female with an average age of 31.41 (*SD*= 16.17). The original sample including both supporters and non-supporters comprised of 65% students and 35% community members. However, we did not record student status in our study, so we do not know the exact proportion after removing non-supporters from the analysis.

Sample size calculations are not straightforward for LPA. Power is determined by the number of indicators, participants, and profiles, and the degree of separation between profiles, which are all difficult to predict a priori (Tein et al., 2013). However, simulation studies suggest that a minimum *N*= 500 should provide sufficient power to accurately detect the number of latent profiles in a sample (Nylund et al., 2007; Spurk et al., 2020). The sample size was determined by

practical constraints on data collection meaning we could not run separate analyses for each country, but the combined sample size should be sufficient to test the proposed profile solution.

**Procedure**

Students were recruited on university campuses or for course credit in all nations. In Romania, Germany, the US and Australia, community members were also recruited via public forums (e.g., Craigslist) and personal networks. The questionnaire titled, 'Attitudes about the Syrian refugee crisis' was distributed online via Qualtrics, or via hard copy. Responses were given on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), with scale items averaged to create a composite score, unless indicated otherwise below. The full questionnaire is available at https://osf.io/un4a5/?view_only=c0e007d9531043a9817808d0ae9a7fc9.

**Materials**

*Motivation.* Participants were asked to what extent they supported Syrian refugees because of two types of controlled motivation; external regulation ('Because others would get mad at me if I didn't'); introjected regulation ('Because I would feel like a bad person if I didn't'); and two types of autonomous motivation; identified regulation ('Because I thought it was important to act in this way'); and integrated regulation ('Because I valued doing so'). These were single-item measures adapted from Weinstein and Ryan (2010).

*Opinion-based group identification.* Three items adapted from Cameron (2004) measured opinion-based group identification, e.g., 'I identify with other supporters of Syrian refugees' ($\alpha$= .75).

*Collective action intentions.* Participants were asked to what extent they intended to take the following actions to support Syrian refugees: signing a petition, donating money, posting on social media, and volunteering ($\alpha$= .73).

*Past collective action.* Participants were asked if they had *already* taken the actions listed above and responded 'yes' or 'no' to each item. The number of 'yes' responses was summed to create a score ranging from 0-4.

*Donation.* At the conclusion of the survey, participants were informed that researchers would make a donation of 1USD on their behalf and were asked what proportion they would like to donate to Syrian refugees, or disadvantaged children in their own country. This was a continuous measure where participants could choose what proportion of the $1 to donate to each cause, in increments of 10c (e.g., 60c to Syrian refugees, 40c to children in their own country), coded as 1 (0c to Syrian refugees)-11 ($1 to Syrian refugees). The researchers made the donations to each charity in line with participants' allocations (see Lizzio-Wilson et al., 2022 for a similar methodology).

**Analytic Strategy**

We conducted a latent profile analysis in Mplus version 8.6 (Muthén & Muthén, 1998-2017), using the four motivation items (integrated, identified, introjected, and external regulation) as indicators to determine the profiles. We could not run a multigroup LPA or conduct tests of invariance between countries, as this would require sufficient sample sizes to first test the model separately in each country (at least 500 participants). Best fit was determined by a smaller value on the Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC) and adjusted BIC, and a significant ($p < .05$) Vuong-Lo-Mendell-Rubin test (VLMR) and bootstrapped likelihood ratio test (BLRT) indicating that the model has better fit than the previous iteration with fewer profiles (Asparouhov & Muthén, 2012; Tein et al., 2013). We also considered theoretical fit such that, for instance, the final solution should not have multiple profiles with little conceptual differentiation; this would be empirically supported by a higher entropy value suggesting greater differentiation between profiles.

## Results

We concluded that the five-profile solution had the best fit with the data (Table 3). The five-profile solution had a significant VLMR and lower AIC, BIC, and aBIC than the four-profile solution.

**Table 3**

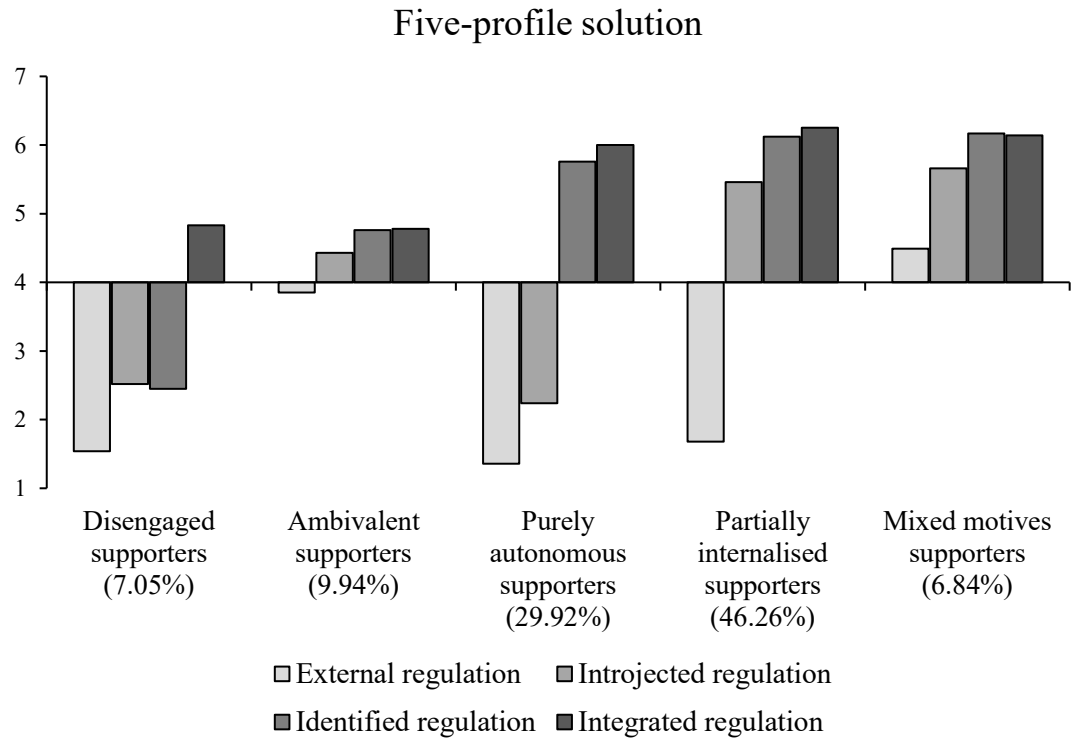
*Fit Statistics for Solutions With 1-7 Profiles.*

| *k* | AIC | aBIC | BIC | VLMR *p* value | BLRT *p* value | Entropy | Size of profiles |
|---|---|---|---|---|---|---|---|
| 1 profile | 12654.58 | 12667.91 | 12693.31 | - | - | - | 100% |
| 2 profiles | 12269.57 | 12291.22 | 12332.51 | < .001 | < .001 | 0.896 | 85% / 15% |
| 3 profiles | 11921.79 | 11951.77 | 12008.94 | < .001 | < .001 | 0.909 | 77% / 16% / 7% |
| 4 profiles | 11693.72 | 11732.03 | 11805.08 | < .001 | < .001 | 0.854 | 46% / 30% / 16% / 7% |
| 5 profiles | 11601.84 | 11648.47 | 11737.40 | .028 | < .001 | 0.860 | 46% / 30% / 10% / 7% / 7% |
| 6 profiles | 11489.69 | 11544.65 | 11649.46 | .160 | < .001 | 0.822 | 41% / 22% / 16% / 8% / 7% / 6% |
| 7 profiles | 11387.93 | 11451.22 | 11571.91 | .252 | < .001 | 0.831 | 38% / 24% / 16% / 8% / 7% / 5% / 1% |

Indicator means for the five profiles are illustrated in Figure 2. First, *disengaged supporters* were low on external, introjected, and identified regulation. Integrated regulation was somewhat higher, but we labelled these supporters as disengaged as they actively disagreed that most of the motives were applicable to them. Next, *ambivalent supporters* were near the scale midpoint for all four types of motivation. *Purely autonomous supporters* were high in autonomous motivation (identified and integrated regulation), and low in controlled motivation (external and introjected regulation). *Partially internalised supporters* were low in external regulation, but high in introjected, identified, and integrated regulation. Finally, *mixed motives supporters* scored highly on all types of motivation, although relatively lower on external regulation than other motives.

**Figure 2**

*Profile Means for Each Type of Motivation in the Five-Profile Solution.*



After determining the optimal solution, we used the AUXILIARY option in Mplus to examine opinion-based group identification, action intentions, past action, and donation as outcomes of profile membership (Table 4). Disengaged and ambivalent supporters had the lowest levels of identification and all measures of action compared to all other groups, followed by purely autonomous supporters, then partially internalised supporters. Mixed motives supporters reported higher identification than purely autonomous and partially internalised supporters, and greater action intentions than purely autonomous supporters. Past action and donation were not significantly different between mixed motives supporters compared to partially internalised and purely autonomous profiles.

**Table 4**

*Means* (SE) *on Outcome Measures for Each Latent Profile.*

| | Disengaged | Ambivalent | Purely autonomous | Partially internalised | Mixed motives |
|---|---|---|---|---|---|
| Identification | 4.45 (.13)$_a$ | 4.74 (.09)$_a$ | 5.44 (.05)$_b$ | 5.88 (.04)$_c$ | 6.15 (.10)$_d$ |
| Action intentions | 3.58 (.15)$_a$ | 3.86 (.12)$_a$ | 4.66 (.07)$_b$ | 5.20 (.06)$_c$ | 5.00 (.15)$_c$ |
| Past action | 0.57 (.11)$_a$ | 0.45 (.08)$_a$ | 0.99 (.07)$_b$ | 1.38 (.06)$_c$ | 1.12 (.15)$_{bc}$ |
| Donation | 7.21 (.43)$_a$ | 6.42 (.37)$_a$ | 8.21 (.18)$_b$ | 8.86 (.14)$_c$ | 8.65 (.36)$_{bc}$ |

Subscripts denote where profiles are significantly different at $p < .05$.

## Discussion

We found partial support for our hypotheses. Profiles higher in autonomous motivation identified more strongly with refugees and took more action than those lower in autonomous motivation, consistent with H1. However, profiles high in controlled motivations were more engaged in action and identified more strongly than those low in controlled motivation, thus H2 was not supported. We also found support for H3, as the least engaged profiles of supporters were relatively low in all motives. Finally, H4 was not supported, as a combination of motives

led to higher commitment to action than autonomous motives alone (contrary to Geiser et al., 2014). It therefore appears that autonomous motivation is good for collective action – but *also* having controlled motivation is better.

The findings also contradict the assertion that autonomous and controlled motives are opposite ends of a continuum and crowd each other out (Deci et al., 1999; Gagné & Forest, 2008). About half the sample scored highly on both types of autonomous motivation and at least one type of controlled motivation. However, most of these were in the partially internalised group, where introjected regulation was high and external regulation was low. While introjected regulation is categorised as a form of controlled motivation, it is considered to be partially internalised as it stems from one's own self-evaluations and emotions (e.g., desire to feel pride, avoid guilt) and is not externally imposed (Ryan & Deci, 2017). In the context of collective action and motivations towards group-level goals, introjected and autonomous motivations may be more strongly associated than in other contexts. This is because people who care about a cause may also feel guilt or shame if they do not meet their own internalised standards, and those of the group with which they identify. External regulation and autonomous motivation may be similarly associated in the group context, as those who identify most strongly with the group are more likely to care what other members think and conform to norms and expectations of the group (Reynolds et al., 2015). Thus, the self-determination continuum structure may be less rigid in the context of group goals, where meeting the expectations of others is not as externalised or peripheral as it may be in the individual context.

Also of note is that we did not identify a group exclusively high in controlled motivation. The analysis therefore suggests that there is no significant quantity of supporters driven solely, or even primarily, by controlled motivation (i.e., 'slacktivists' or 'performative activists'). We

conducted Study 2 in a different refugee context to determine whether these findings would be replicated, using more robust two-item measures of each type of motivation and changing the wording for some items (see below).

Finally, although we had data from multiple nations in Study 1, we did not have sufficient sample sizes to detect different subgroups within each nation. We note that differences across nations, including both contextual differences and characteristics within our sample (e.g., different proportions of students) are a key limitation, as these factors are likely to exert significant influence over the types, and relative prevalence, of supporters. Thus, the five profiles we identified do not reflect subgroups of one population, but rather generalisations across national contexts. Furthermore, due to the small sample sizes in some countries, our analysis would fail to detect any smaller subgroups that may be present only in a single country. Larger sample sizes would be required to obtain a more comprehensive picture of the subgroups of supporters that may be present in each country, and whether these differ across national contexts. We also only had single-item measures of motivation and did not have measures of intrinsic motivation or amotivation. We address these limitations in Study 2.

## Study 2

Study 2 was conducted in the context of refugees fleeing Ukraine following the Russian invasion beginning in February 2022. The invasion and resulting refugee crisis were ongoing throughout the study (December 2022-May 2023). We pre-registered the analyses for Study 2 prior to data collection; see https://osf.io/frdzm/?view_only=50535ff8d5d94b5cae5f2c2fe362b529.

We expected that profiles higher in autonomous motivation would score higher on all outcomes than those lower in autonomous motivation (H1). Based on the findings of Study 1 but

contrary to our original hypotheses, we expected that profiles relatively high in *both* autonomous and controlled motivation would have the highest scores on all outcomes relative to all other profiles (H2). We did not expect to find profiles where controlled motivation is high, but autonomous motivation is low (H3).

Study 2 also included measures of amotivation and intrinsic motivation. Amotivation refers to an absence of motivation, when one does not expect to achieve any desired outcomes from the behaviour (Table 2). We expected that profiles higher in amotivation would be relatively low on all other indicators (H4) and thus would score lowest on all outcomes relative to other profiles (H5).

Intrinsic motivation is considered the most internalised form of motivation, when the behaviour is experienced as inherently enjoyable (Ryan & Deci, 2000). We expected that profiles high in other forms of autonomous motivation would also be high in intrinsic motivation (H6a). These motives are adjacent on the self-determination continuum and thus should be highly correlated (Howard et al., 2017). However, we expected that motives derived from one's sense of self and personal goals (i.e., integrated and identified regulation), rather than enjoyment, would be more strongly predictive of collective action (H6b). Research on voting behaviour has found that identified and integrated regulation are associated with voting, but intrinsic motivation is not (Koestner et al., 1996); intrinsic motivation may be less relevant for collective action, which is necessary for social change (Thomas & Louis, 2013) but unlikely to be experienced as inherently enjoyable.

We also considered potential cross-national differences between supporters of refugees due to differences in the socio-political context. We recruited at least 500 participants from three different nations, allowing us to run separate analyses for each country and conduct cross-

national comparisons via a multigroup LPA. We did not pre-register hypotheses regarding the nature of differences between countries but sought to establish whether similar profiles would be present on an exploratory basis.

## Method

### Participants

We pre-registered that we would collect data in Romania, Hungary, and Germany, but instead sampled UK participants due to difficulties collecting the German data. We recruited 1,994 participants (Romania *N*= 736, Hungary *N*= 756, UK *N*= 502). Mean age varied across samples (Romania= 32.45, *SD*= 13.04, Hungary= 27.24, *SD*= 12.20, UK= 42.29, *SD*= 13.58) and more than half of participants were female (Romania= 51.6%, Hungary= 72.8%, UK= 57.2%).

### Procedure

In Hungary, data were collected between December 2022-March 2023. Students (78% of the sample) were recruited for course credit, supplemented by a community sample who were offered a raffle prize (one of three €30 gift cards). In Romania, data were collected in January-February 2023. Students (approximately 27% of the sample) were offered additional course credits for recruiting friends and family to complete the survey. In the UK, we administered the survey in May 2023 to a community sample via Prolific Panels and paid participants £2 for completing the questionnaire. The questionnaire titled, 'Attitudes towards Ukrainian refugees' was translated from English to Romanian and Hungarian, and distributed online via Qualtrics. As with Study 1, we only recruited people who indicated that they support global action in support of Ukrainian refugees. Responses were given on a scale from 1 (strongly disagree) to 7 (strongly agree) unless indicated otherwise.

**Materials**

*Motivation.* Participants were asked to indicate why they take action to support Ukrainian refugees. There were two items for each type of regulation measured in Study 1; integrated regulation ($r$= .70-.76), identified regulation ($r$= .63-.83), introjected regulation ($r$= .31-.41), and external regulation ($r$= .42-.68). We added two-item measures of amotivation (e.g., 'I don't know, I don't really have any good reason to do so'; $r$= .48-.71) and intrinsic motivation (e.g., 'Because I experience satisfaction from engaging in this behaviour'; $r$= .62-.80). The two items were averaged to create a composite score of each motivation. Most of the items from Study 1 were retained, but some were revised slightly, e.g., 'Because others would get mad at me if I didn't' was changed to 'Because others would think badly of me if I didn't' as people may be more likely to fear judgement from peers than outright anger. The revised measure may therefore be more likely to detect external regulation within the sample.

*Opinion-based group identification.* The same items were used as in Study 1 (α= .87-.90).

*Collective action intentions.* Participants were asked to what extent they intended to take the following actions to support Ukrainian refugees: posting on social media, carrying or displaying an item to show support, updating social media profile to show support, signing a petition, talking to friends, family or colleagues, writing an email to a politician, donating, attending a rally, volunteering, and offering a place to stay in their home (α= .90-.91).

*Past collective action.* Participants were asked if they had *already* done any of the above actions and responded 'yes' or 'no' to each item. The number of 'yes' responses was summed, ranging from 0-10.

*Donation behavioural measure*. At the conclusion of the survey, we provided a link to a webpage where participants could donate to assist Ukrainian refugees. However, few participants

clicked on this link and there were no significant differences in clicks between any profiles, so this will not be discussed further.

### Analytic Strategy

As we had more than 500 participants in each sample, we conducted a multigroup LPA. To run a multigroup LPA, it is first necessary to conduct separate LPAs using each sample (Morin et al., 2016). If the same number of profiles is identified in the optimal solution for each sample (thus establishing configural similarity), it is then possible to combine samples and test for structural, dispersion, and distributional similarity across countries (described in more detail below). Thus, we first describe the profiles in each sample, then discuss the multigroup analysis.

## Results

We used six motivation items (amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation) as indicators to determine the profiles. The fit statistics for solutions with 1-7 profiles are displayed in Table 5. We modelled collective action intentions, past action, and opinion-based group identification as outcomes (Table 6).

**Table 5**

*Fit Statistics for Each Solution up to Seven Profiles.*

| *k* | AIC | aBIC | BIC | VLMR *p* value | BLRT *p* value | Entropy | Size of profiles |
|---|---|---|---|---|---|---|---|
| **Romania** | | | | | | | |
| 1 profile | 15322.524 | 15339.635 | 15377.739 | - | - | - | 100% |
| 2 profiles | 14048.248 | 14075.340 | 14135.671 | < .001 | < .001 | 0.883 | 69% / 31% |
| 3 profiles | 13479.372 | 13516.445 | 13599.004 | < .001 | < .001 | 0.912 | 60% / 35% / 6% |
| 4 profiles | 13215.935 | 13262.989 | 13367.775 | .002 | < .001 | 0.894 | 52% / 34% / 8 % / 6% |
| 5 profiles | 13008.570 | 13065.606 | 13192.620 | .033 | < .001 | 0.845 | 39% / 26% / 20% / 9% / 6% |
| 6 profiles | 12893.227 | 12960.243 | 13109.484 | .302 | < .001 | 0.833 | 29% / 21% / 20% / 18% / 6% / 6% |
| 7 profiles | 12787.128 | 12864.126 | 13035.595 | .007 | < .001 | 0.821 | 21% / 20% / 17% / 17% / 13% / 6% / 6% |
| **Hungary** | | | | | | | |
| 1 profile | 15563.365 | 15580.797 | 15618.902 | - | - | - | 100% |
| 2 profiles | 14506.154 | 14533.754 | 14594.087 | .001 | < .001 | 0.845 | 73% / 27% |
| 3 profiles | 13832.342 | 13870.110 | 13952.671 | < .001 | < .001 | 0.879 | 51% / 42% / 7% |
| 4 profiles | 13585.732 | 13633.669 | 13738.458 | .024 | < .001 | 0.845 | 42% / 36% / 17% / 5% |
| 5 profiles | 13420.347 | 13478.452 | 13605.469 | .047 | < .001 | 0.813 | 33% / 25% / 19% / 18% / 5% |
| 6 profiles | 13277.449 | 13345.723 | 13494.967 | .028 | < .001 | 0.843 | 38% / 26% / 17% / 10% / 5% / 5% |
| 7 profiles | 13175.542 | 13253.984 | 13425.456 | .150 | < .001 | 0.850 | 36% / 25% / 17% / 10% / 5% / 5% / 1% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **UK** | | | | | | | |
| 1 profile | 9623.517 | 9636.052 | 9674.140 | - | - | - | 100% |
| 2 profiles | 9072.413 | 9092.259 | 9152.567 | .007 | < .001 | 0.804 | 67% / 33% |
| 3 profiles | 8818.720 | 8845.878 | 8928.404 | .009 | < .001 | 0.885 | 60% / 38% / 3% |
| 4 profiles | 8599.614 | 8634.083 | 8738.828 | .019 | < .001 | 0.879 | 51% / 35% / 10% / 5% |
| 5 profiles | 8486.462 | 8528.243 | 8655.206 | .155 | < .001 | 0.828 | 36 % / 31% / 18% / 10% / 5% |
| 6 profiles | 8408.088 | 8457.180 | 8606.362 | .231 | < .001 | 0.817 | 31% / 30% / 15% / 14% / 8% / 2% |
| 7 profiles | 8323.421 | 8379.825 | 8551.226 | .539 | < .001 | 0.820 | 24% / 23% / 23% / 20% / 5% / 3% / 2% |

**Table 6**

*Means* (SE) *on Outcome Measures for Each Latent Profile.*

| **Romania** | Disengaged | Ambivalent | Partially internalised | Mixed motives |
|---|---|---|---|---|
| Identification | 3.75 (.20)$_a$ | 4.90 (.07)$_b$ | 6.01 (.04)$_c$ | 6.23 (.08)$_d$ |
| Action intentions | 2.05 (.11)$_a$ | 3.55 (.06)$_b$ | 4.80 (.05)$_c$ | 5.74 (.11)$_d$ |
| Past action | 0.54 (.11)$_a$ | 2.01 (.10)$_b$ | 4.17 (.11)$_c$ | 4.90 (.28)$_d$ |
| **Hungary** | Disengaged | Ambivalent | Partially ambivalent | Partially internalised |
| Identification | 3.24 (.21)$_a$ | 4.51 (.08)$_b$ | 5.22 (.05)$_c$ | 6.44 (.04)$_d$ |
| Action intentions | 1.90 (.13)$_a$ | 2.93 (.09)$_b$ | 3.59 (.06)$_c$ | 4.75 (.07)$_d$ |
| Past action | 1.00 (.13)$_a$ | 1.24 (.08)$_a$ | 2.44 (.09)$_b$ | 4.64 (.15)$_c$ |
| **UK** | Disengaged | Ambivalent | Partially internalised | Purely autonomous |
| Identification | 4.42 (.29)$_a$ | 5.27 (.07)$_b$ | 6.05 (.05)$_c$ | 5.79 (.11)$_d$ |
| Action intentions | 1.77 (.14)$_a$ | 3.19 (.07)$_b$ | 4.35 (.07)$_c$ | 3.90 (.15)$_d$ |
| Past action | 1.03 (.20)$_a$ | 2.09 (.11)$_b$ | 3.96 (.13)$_c$ | 3.25 (.26)$_d$ |

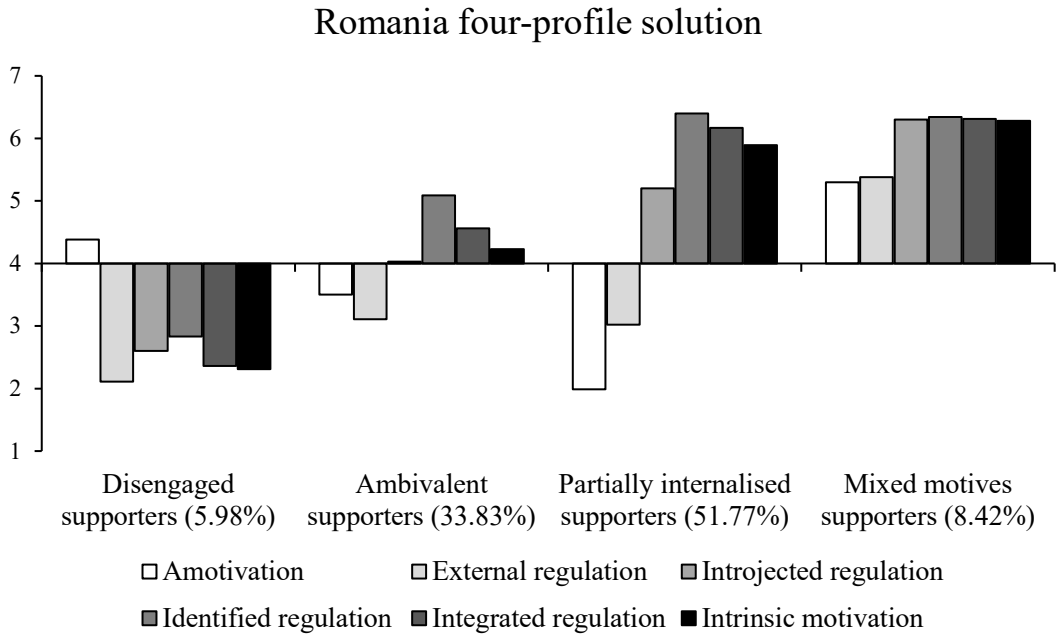
Subscripts denote where profiles are significantly different at $p < .05$.

**Romania**

We concluded that the four-profile solution had the best fit with the data (Figure 3); although the five-profile solution had significant VLMR and lower AIC, BIC, and adjusted BIC (Table 5), the fifth profile was theoretically very similar to another profile. This conclusion was supported by a higher entropy value for the four-profile solution.

**Figure 3**

*Profile Means for Each Type of Motivation in the Four-Profile Solution.*




The four profiles were theoretically similar to four (of five) profiles identified in Study 1. First, *disengaged supporters* were low on all types of motivation, and near the scale midpoint for amotivation. *Ambivalent supporters* scored near the midpoint for all motives, though they were somewhat more strongly driven by autonomous than controlled motivations. They were also near the midpoint for amotivation. Next, *partially internalised supporters* had high levels of autonomous motivation, moderate-high levels of introjected regulation, low levels of external regulation, and very low levels of amotivation compared to the other profiles. Finally, *mixed*

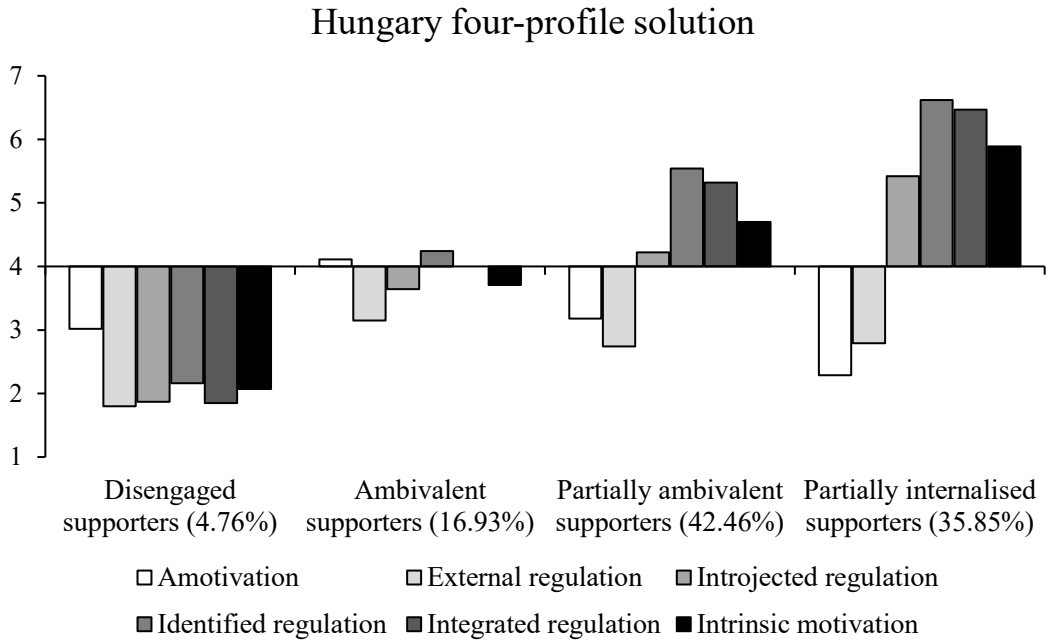
*motives supporters* had very high levels of autonomous motivation and introjected regulation, and moderate-high levels of external regulation and amotivation. The purely autonomous profile (identified in Study 1) was not present. Disengaged supporters scored lowest on identification and action, followed by ambivalent supporters, then partially internalised supporters, with mixed motives supporters again scoring highest on all outcomes (Table 6).

**Hungary**

We again concluded that the four-profile solution had the best fit (Figure 4). The VLMR was only marginally significant for the five-profile solution, and the six-profile solution, despite having a significant VLMR, contained multiple theoretically similar profiles. The larger entropy value also supported the four-profile over the five-profile solution (Table 5).

**Figure 4**

*Profile Means for Each Type of Motivation in the Four-Profile Solution.*




Three of the four profiles were similar to those found previously; *disengaged supporters* (low on all indicators), *ambivalent supporters* (near the scale midpoint on all indicators), and

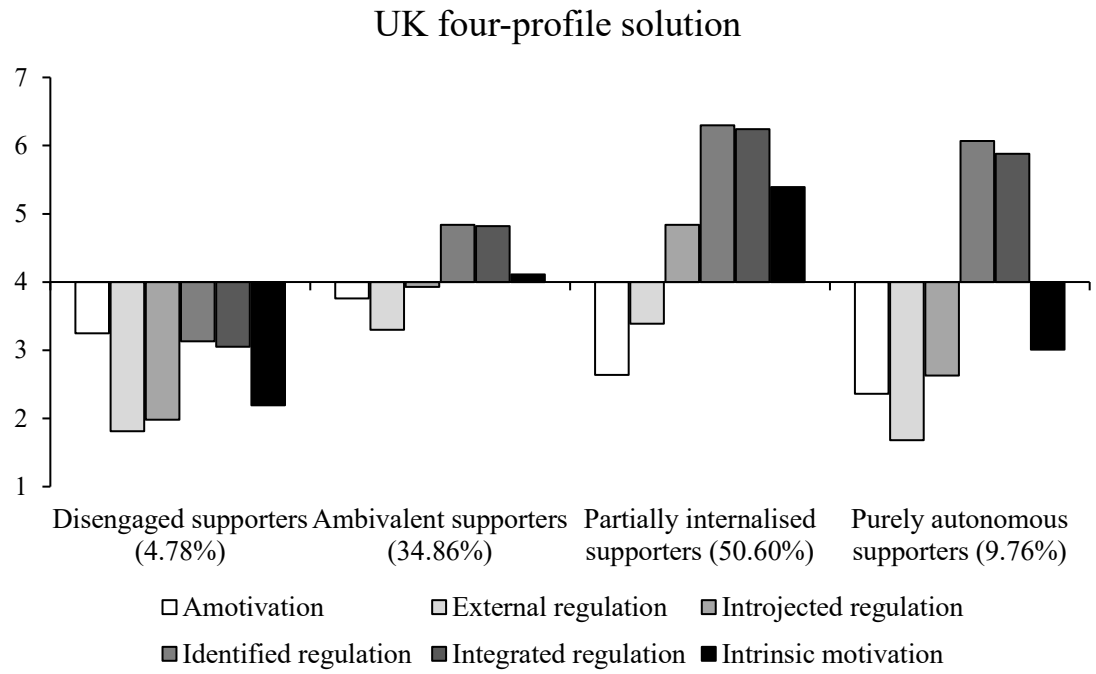
*partially internalised supporters* (high autonomous motivation, moderate-high introjected regulation, and low external regulation and amotivation). The new profile was characterised by moderate-to-high levels of autonomous motivations, midpoint levels of introjected regulation, and somewhat low external regulation and amotivation. This profile presented a 'middle ground' between ambivalent and partially internalised supporters and was thus labelled as *partially ambivalent.* Mixed motives (Study 1 and Romania) and purely autonomous supporters (Study 1) were not present. Disengaged supporters scored lowest on all outcomes, followed by ambivalent, partially ambivalent, and partially internalised supporters.

**UK**

We again chose the four-profile solution (Figure 5), as this solution had lower AIC, BIC and aBIC than the previous solutions, and a significant VLMR (Table 5).

**Figure 5**

*Profile Means for Each Type of Motivation in the Four-Profile Solution.*



The same three profiles that were consistent across all studies were present in the UK sample; *disengaged supporters* (low on all indicators), *ambivalent supporters* (near the scale midpoint on all indicators, though autonomous motives were somewhat higher than controlled motives), and *partially internalised supporters* (high in autonomous motivations, moderate-high introjected regulation, moderate-low external regulation, and low in amotivation). Finally, *purely autonomous supporters* (Study 1) were high in integrated and identified regulation, and low in intrinsic motivation, introjected and external regulation, and amotivation. The mixed motives profile (Study 1 and Romania) was not present. Disengaged supporters scored lowest on all outcomes, followed by ambivalent supporters, purely autonomous supporters, and partially internalised supporters.

**Multigroup Analysis**

We conducted a multigroup LPA following steps in Morin et al. (2016). We first established configural similarity, i.e., that the optimal number of profiles was the same in all countries. We thus conducted a multigroup model with all three samples included, using country as the grouping variable. We then tested for structural similarity (mean indicator levels in each profile are equivalent between countries), dispersion similarity (within-profile variance is equivalent between countries), and distributional similarity (the size of the profiles is equivalent between countries), increasingly constraining parameters of the model and comparing the AIC, BIC, and aBIC values to determine whether fit improved or worsened between iterations (Table 7). All fit indices increased with every iteration, thus we retained the original configural similarity model and concluded that means, variances, and class probabilities varied across countries. As the structure of the profiles was not equivalent, we did not test for explanatory similarity. The findings of the multigroup analysis therefore suggest that the profiles of refugee supporters were different across our three samples. Although the analysis cannot tell us if any

*specific* profiles were structurally similar across all (or some) countries, we conclude that disengaged, ambivalent, and partially internalised supporters were present in all samples, but mixed motives, partially ambivalent, and purely autonomous supporters were unique to Romania, Hungary, and the UK, respectively.

**Table 7**

*Fit Statistics for Cross-National Invariance Tests.*

| | AIC | aBIC | BIC | Entropy |
|---|---|---|---|---|
| Configural | 39723.614 | 39968.120 | 40289.002 | 0.871 |
| Structural | 40138.610 | 40266.915 | 40435.299 | 0.824 |
| Dispersion | 40247.097 | 40346.351 | 40476.610 | 0.822 |
| Distributional | 40291.970 | 40376.699 | 40487.896 | 0.823 |

## Discussion

We consistently found that members of profiles characterised by autonomous motivation alone were more strongly identified and committed to action than those low or ambivalent on all motives, as predicted (H1). Consistent with our pre-registration for Study 2 but contrary to our initial hypotheses, profiles characterised by *both* autonomous and controlled motivation were again highest on identification and action (H2). There were no profiles where controlled motivation was high, but autonomous motivation was low (per H3).

The prediction that low scores on all motives would be associated with high levels of amotivation was not supported, as no clear patterns emerged (H4). Although ambivalent and disengaged profiles tended to score higher on amotivation than more highly engaged profiles (e.g., partially internalised, purely autonomous), the disengaged profiles in Hungary and the UK were still relatively low on amotivation (lower than the scale midpoint). Unexpectedly, the mixed motives profile in Romania was the only profile that scored highly on amotivation (H5). It may

be that responses to one of the items ('I wonder why I engage in this behaviour; in fact, I don't think that it changes anything') reflected feelings of despair or low efficacy to effect change (see supplementary Table S9) rather than the absence of motivation or investment theorised by Ryan and Deci (2000).

Finally, H6 was generally supported, as supporters higher in autonomous motivation tended to also indicate that they experienced collective action as intrinsically more enjoyable than those lower in autonomous motivation. However, this was not the case for the purely autonomous group in the UK, who scored highly on integrated and identified regulation but were low in intrinsic motivation. This suggests that this particular group was driven only by concern for the cause and a desire to improve outcomes for refugees, but did not draw any satisfaction or enjoyment from participating in collective action. Although intrinsic motivation is considered the most authentic form of motivation for individual goals (Ryan & Deci, 2000), this may not be the case for collective goals where intrinsic motivation reflects a motive of personal enjoyment and satisfaction. Indeed, the satisfaction obtained from acting for a good cause, which could be considered as a form of intrinsic enjoyment (Van der Linden, 2018) may be more closely aligned with the introjected desire to feel good about oneself than with the goal-focused motives of identified and integrated regulation. Furthermore, identity and goals-based motives (identified and integrated regulation) were more highly endorsed as a motivator for action compared to intrinsic motivation, suggesting that intrinsic enjoyment is less important as a motivator of collective action compared to internalised goals (Koestner et al., 1996).

Cross-national analysis revealed similarities and differences in the profiles across national contexts. Disengaged, ambivalent, and partially internalised profiles were present in all samples and made up a similar proportion of each (except for Hungary, where some of these

were partially ambivalent). However, Romania had a small group of mixed motives supporters, while the UK had a small group of purely autonomous supporters; Hungary had neither. There are key socio-political differences between these countries which may explain differences in the profile structure. Romania has a history of accepting refugees dating back to World War II and its government has been less hostile towards refugees relative to other European countries (Balsam, 2023). Furthermore, Romania and Ukraine are geographically close and share a Christian Orthodox religion (Stan et al., 2023), which may lead Romanians to experience a greater sense of solidarity with Ukrainian refugees and ultimately result in some supporters who have both an internalised desire to support refugees but are also impacted by external norms and expectations of providing support. Thus, we found some supporters with mixed motives in our Romanian sample. In contrast, foreign policy in the UK has historically been unwelcoming towards refugees and negative attitudes towards refugees are high (Holloway et al., 2019), which may result in lower external pressure to support refugees. In the UK sample, we did not find any supporters who were high on external regulation, but we found some supporters who acted for purely internalised reasons, as those who take action may do so with minimal expectations of external reward. Meanwhile, greater ambivalence in motives among the Hungarian sample may similarly be a result of prior hostile attitudes towards refugees and anti-immigrant campaigns by the government (Barna & Koltai, 2019), which may explain the low levels of external regulation throughout all subgroups in this sample. Nevertheless, public opinion towards refugees in Hungary was much more favourable towards Ukrainians than Middle Eastern refugees in the prior decade (Pepinsky et al., 2022), and indeed a large proportion of our sample demonstrated a high degree of internalised motivation to support refugees which may reflect feelings of solidarity with culturally similar (e.g., predominantly white Christian) Ukrainians. Although we

can only speculate on causal factors, the differences between supporters in each country highlight the importance of considering the socio-political context in which motivation develops. However, there are some limitations to these comparisons, as there are key demographic differences between samples (e.g., proportion of students).

## General Discussion

Why do people take solidarity-based action to support refugees? Perspectives on performative allyship and slacktivism suggest that some supporters take low-effort actions for self-serving reasons, while others take more meaningful action. However, this debate has not yet examined the underlying quality of motivation using statistical approaches suitable for detecting mixed motives. We found evidence to suggest that supporters of refugees differ based on the combinations of motives underlying their support, and across contexts in which they live (see Table 8 for an overview). Some supporters were disengaged or ambivalent, some had purely autonomous motives, but some also had mixed motives, contrary to the continuum structure of self-determined motivation (Ryan & Deci, 2000). In all four samples, the majority of supporters were driven by both autonomous motives and more self-serving motives like those outlined in the slacktivism perspective (Skoric, 2012) to alleviate guilt or feel good about oneself. Unexpectedly, people with mixed motives consistently reported stronger identification with refugee supporters and higher engagement in action than those with autonomous motives alone (contrary to Geiser et al., 2014; Levesque-Côté et al., 2021). Thus, a combination of motives is associated with the most positive outcomes, and controlled motives appear conducive to action as long as autonomous motives are also present.

**Table 8**

*Summary of All Profiles in Study 1 and 2.*

| | **Disengaged** | **Ambivalent** | **Partially ambivalent** | **Purely autonomous** | **Partially internalised** | **Mixed motives** |
|---|---|---|---|---|---|---|
| Study 1 | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Study 2 Romania | ✓ | ✓ | | | ✓ | ✓ |
| Study 2 Hungary | ✓ | ✓ | ✓ | | ✓ | |
| Study 2 UK | ✓ | ✓ | | ✓ | ✓ | |
| Autonomous motivation | Low | Neutral | Neutral-high | High | High | High |
| Introjected regulation | Low | Neutral | Neutral-high | Low | High | High |
| External regulation | Low | Neutral | Low | Low | Low | High |
| Outcomes | *Lowest scores on all outcomes* | | | | *Highest scores on all outcomes* | |

Contrary to slacktivism and virtue-signalling accounts of action, we did not find any profiles characterised by controlled motivation alone – and only small groups in some samples were high in external regulation (mixed motives supporters). Thus, we consistently did not find any supporters whose action was solely driven by impression management or similar self-serving motives; although these motives are present among refugee supporters, we found no evidence that there are supporters who act purely, or even mainly, for performative reasons. This provides further nuance to discussions of performative allyship (Kutlaca & Radke, 2023; Radke et al., 2020) and suggests that the self-focused motives identified in this literature co-occur with motives focusing on the plight of the disadvantaged group. However, it is possible that people driven purely by external motives would not self-identify as a supporter and thus were not captured in our sample, or that participants under-reported external regulation, as those who are susceptible to impression management motives may also engage in socially desirable responding. Thus, future research is needed to address this limitation.

We found that controlled motivation was positively associated with identification and collective action, as supporters high in controlled motivation (when paired with high autonomous motivation) tended to report greater identification and commitment to action. Using a person-centred approach allows us to examine how motives co-occur within people, showing that controlled motivation can be a positive force for collective action when autonomous motivation is also present. In contrast, previous findings have shown that having both types of motivation can lead to moderate levels of action (e.g., Geiser et al., 2014; Levesque-Côté et al., 2021), suggesting that the presence of controlled motivation diminishes the positive effects of autonomous motivation. One intriguing possibility is that controlled motivation may play a different role when pursuing group-based rather than individual goals. In this context, the

external influences whose norms and expectations control one's behaviour are other ingroup members whose approval we seek *because* we identify with them (Hogg & Reid, 2006) and thus are not truly external to one's (social) identity. Thus, when autonomous motivation (i.e., a genuine commitment to the cause) is also present, controlled motivation may be a positive force for action because it is grounded in one's commitment to the group.

However, research using variable-centred approaches has shown that controlled motivation predicts decreases in identification and collective action over time (see Chapter 3). Furthermore, external regulation has been found to predict burnout in environmental activists (Sheldon et al., 2016), while introjected regulation can have positive effects on behaviour, but negative effects on wellbeing (Ng et al., 2012) and promote behaviour in the short-term, but not in the long-term (Pelletier et al., 2001). It may be that controlled motivation promotes short-term involvement in action but can be detrimental over time by shifting the focus to external factors (e.g., ingroup approval) and away from the group's goals, or may lead to other detrimental effects (e.g., on wellbeing). Further research is needed to clarify the role of controlled motivation and understand its long-term impacts on collective action, and to establish causal relationships.

Partially internalised supporters were consistently the largest profile, comprising nearly half of all samples. Thus, the majority of supporters were high in both introjected regulation (e.g., guilt/pride) and autonomous motives (internalised goals), replicating the association between these motives found in previous research (Howard et al., 2017). This association may be because those who care about the cause and hold it as personally important are more likely to feel guilt or shame (Table S9) if they do not act, as they are failing to meet their own standards. Furthermore, highly autonomous supporters identify strongly with the opinion-based group, meaning that their judgement of themselves (e.g., 'I am a good person') is likely to hinge on

adherence to the group's norms. Thus, it may be that the continuum structure outlined in self-determination theory is less applicable in the context of collective action, and the role of introjected regulation in this context may be different to its role in individual self-regulation (as discussed above). It is also notable that introjected regulation was strongly correlated with both autonomous motivation and external regulation (Table S9), suggesting that introjected regulation should be conceptualised as a middle ground between autonomous and controlled motives (Howard et al., 2017; Howard et al., 2020) rather than a type of controlled motivation.

## Conclusion

What drives advantaged group members to take action to support the millions of refugees fleeing conflict and persecution around the world? Understanding the motives behind these actions and how they vary across socio-political contexts is key to understanding how to promote and sustain support for refugees. We found that there are qualitatively different types of supporters distinguishable by the combinations of motives underlying their support. We found no evidence that any supporters act purely for self-serving reasons. Instead, most supporters are driven by a combination of their internalised goals aligning with the cause, and introjected factors such as guilt. Supporters with mixed motives are more committed to action than any other group, suggesting that both quality (i.e., the presence of autonomous motivation) and quantity (multiple or mixed motives) are important for action.

# Chapter 3

## Autonomous Motives Foster Sustained Commitment to Action: Integrating Self-Determination Theory and the Social Identity Approach

### Context Statement

Chapter 3 extends theoretically on the findings of the previous chapter, which established that there are differences in supporters' underlying motives and that motivation is key for predicting the quantity of collective action. In this chapter, I use variable-centred methods to explore the associations between types of motivation and opinion-based group identification and collective action among supporters of action to combat global poverty. This chapter explores the second claim of the thesis: that the type of motivation can predict the *longevity* of action. I use longitudinal methods to explore the effects of motivation on action over time, and how changes in motivation over time are associated with changes in action.

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**Abstract**

Social change movements may take years or decades to achieve their goals, and thus require ongoing efforts from their supporters. We apply the insights of self-determination theory to examine sustained collective action over time. We expected that autonomous motivation, but not controlled motivation, would predict sustained action. We also examine whether autonomous motivation shapes and is shaped by social identification as a supporter of the cause. Longitudinal data was collected from supporters of global poverty reduction ($N = 263$) at two timepoints one year apart. Using latent change score modelling, we found that increases in autonomous motivation positively predicted increases in opinion-based group identification, which in turn predicted increases in self-reported collective action. Controlled motivation (Time 1) negatively predicted changes in action. We concluded that autonomous motivation predicts sustained action over time, while promoting controlled motives for action may backfire because it may undermine identification with the cause.

## Introduction

Social movements often take years or decades to achieve their goals. Such movements frequently face setbacks or outright opposition to their desired change (Lizzio-Wilson et al., 2021). Thus, dedication and persistence from supporters is essential for the success of social movements. However, widespread ongoing support can be challenging to maintain, particularly for disadvantaged groups whose plight may be 'out of sight, out of mind' for people who do not themselves experience the disadvantage – as might occur within the movement to combat global poverty (Pittinsky & Diamante, 2015; Thomas et al., 2021). In this paper, we seek to understand the factors that promote sustained participation in anti-poverty collective action over time and, conversely, when action is not sustained. *Collective action* is defined as any action that is taken by individuals within a group to further the interests of the group as a whole (Wright et al., 1990). Collective action can be taken by group members acting on their opinions about how the world should be (e.g., anti-poverty, pro-environment; Bliuc et al., 2007), and such groups can include members of advantaged groups acting as 'allies' in solidarity with disadvantaged groups to pursue desired social change (Becker, 2012; e.g., people in developed countries taking action to combat the poverty and disadvantage of people in developing countries). Collective action encompasses a wide range of behaviors such as protesting, signing petitions, and writing letters to members of parliament. What are the factors that lead people to initiate action, and when do they sustain their participation over time?

According to the social identity approach (Tajfel & Turner, 1979; Turner et al., 1987), collective action is underpinned by social identification with a relevant group. Moreover, collective action is particularly likely when people identify with politicized (van Zomeren et al., 2008) or opinion-based groups (Bliuc et al., 2007), such as environmentalists, feminists, or

supporters of efforts to end global poverty. Indeed, studies consistently find that stronger identification with politicized or opinion-based groups predicts greater involvement in collective action (e.g., Agostini & van Zomeren, 2021; Bliuc et al., 2007; Simon et al., 1998; see van Zomeren et al., 2008 for a meta-analysis). A handful of studies have also demonstrated that social identification as a supporter of a social change movement predicts action that endures over time (Bilali et al., 2020; Tausch & Becker, 2013; Thomas et al., 2021). Thus, social identification appears to be a key factor that initiates and sustains participation in collective action.

We consider the idea that, alongside social identification, collective action can also be sustained by the type and quality of the motivation that underpins it. Advantaged group members' action in support of disadvantaged groups can be underpinned by a range of motives, such as moral beliefs, sympathy for the disadvantaged group, or personal (e.g., reputational) gain (Radke et al., 2020). To account for these various types of motivations, we look to self-determination theory (Deci & Ryan, 1985), which provides a detailed typology and analysis of different facets of motivation for action. Self-determination theory proposes that group members may not all share the same motivation, even when there are shared social change goals (e.g., reducing poverty and disadvantage), identities (e.g., commitment to an anti-poverty opinion-based group), and behaviors (i.e., collective action). As we explain below, the analysis provided by self-determination theory suggests that *the quality of motivation is important for understanding why people initiate action and whether it is sustained over time*. We seek to determine whether examining the underlying motivations of people who participate in collective action to combat global poverty can help to explain collective action engagement over time. Furthermore, we examine how these motives are shaped by social identification, or, conversely, how social identification may influence the underlying motivations for collective action.

**Quality of Motivation in Collective Action**

Self-determination theory (Deci & Ryan, 1985) argues that there are qualitatively different forms of motivation that can have different outcomes for behavior, including implications for persistence (e.g., Pelletier et al., 2001; Vallerand et al., 1997), performance (e.g., Burton et al., 2006; Gagné et al., 2015), and wellbeing (e.g., Gagné et al., 2015; Weinstein & Ryan, 2010). We focus here on the distinction between autonomous and controlled motivation and their role in promoting intergroup actions like collective action. According to self-determination theory, each of these two broad forms of motivation are themselves comprised of lower-order, discrete forms of self-regulation (i.e., integrated regulation, introjected regulation; Deci et al., 1994). Behavior that is *autonomously motivated* is considered to be self-determined and performed of one's own volition; it is reflective of an individual's true 'self' (discussed in more detail below) and driven by internal processes such as personal values and goals (Ryan & Deci, 2000). For instance, anti-poverty collective action may be autonomously motivated if it is driven by a desire to improve the lives of people in developing countries (identified regulation); if principles of social justice and equality are part of one's core values (integrated regulation); and/or if one experiences satisfaction from participating in the movement (intrinsic motivation).

In contrast, *controlled motivation* involves engaging in behavior because of external pressures such as reward or punishment, or to actively avoid feelings of guilt or attain feelings of pride (Ryan & Deci, 2000). Participation in anti-poverty collective action may be explained by controlled motives if it stems from a desire to gain social approval by projecting an image of oneself as moral and compassionate (external regulation); to perceive *oneself* as moral and/or to avoid feelings of guilt as an advantaged member of a relatively rich country (introjected regulation). Thus, the same behavior can be driven by qualitatively different underlying motivations.

There are reasons to suspect that autonomous motivation, in particular, will be important in explaining the intensity with which people commit, and sustain their action over time. Autonomous motivation for behavior has been found to be associated with stronger performance and greater persistence in a number of contexts. Vallerand et al. (1997) conducted a large study in Canadian high schools showing that the more autonomously motivated students were, the less likely they were to drop out. Similar patterns have been found in various contexts such as healthcare (e.g., self-managing diabetes treatment; Williams et al., 2004) and sports (Pelletier et al., 2001), suggesting that greater autonomous motivation for behavior is associated with increased engagement and persistence, while controlled motivation is not.

Self-determination theory has been hugely influential in domains such as healthcare, education, sport, and work (see Ryan & Deci, 2017c for a review), but has been little studied in the domain of collective action. There is some literature suggesting that autonomous motivation is a stronger predictor of interpersonal helping (Weinstein & Ryan, 2010), voting behavior (Koestner et al., 1996), and charitable support (Ferguson et al., 2015) than controlled motivation. There is also research implicating autonomous motivation in volunteer engagement (e.g., Bidee et al., 2013; Haivas et al., 2013). Notwithstanding these contributions, we are not aware of any papers examining autonomous and controlled motives in the context of collective action as a broader category of social change-oriented actions (but see Kachanoff et al., 2022; Thomas, McGarty, et al., 2019, for related approaches).

**Changes in Quality of Motivation Over Time**

Moreover, self-determination theory suggests that the quality of motivation can fluctuate over time and is not immutable (Ryan & Deci, 2000). Behaviors that are initially experienced as controlled can become internalized and more self-determined over time (Vansteenkiste et al.,

2018). *Internalization* refers to the 'taking in' of external values, beliefs, or behavioral regulations so that they are accepted as part of the self and integrated with one's identity and values (Williams & Deci, 1996). In contrast, behavior that was initially experienced as autonomous can become more controlled, perhaps due to the emergence of external rewards or sanctions (Deci et al., 1999) – a process of *externalization*. Thus, understanding *changes* in the quality of motivation (autonomous and controlled) is also relevant to understanding how people initiate and sustain behaviors over time.

Indeed, part of the theoretical appeal of self-determination theory lies in its capacity to help explain how people internalize behaviors that may not be inherently enjoyable but are necessary for personal success. Collective action is, similarly, socially important and necessary for collective success (Thomas & Louis, 2013) but is unlikely to be experienced as intrinsically enjoyable. For example, Koestner et al. (1996) found that identified regulation predicted voting behavior, while intrinsic motivation did not, suggesting that behavior can become internalized and people can be motivated to participate in an activity if they are invested in the outcome regardless of whether the activity itself is enjoyable. In this paper, we conceptualize internalization as an increase in autonomous motivation and externalization as an increase in controlled motivation, that is, internalization and externalization are processes that reflect *within-person changes* in the quality of motivation over time. We investigate how the two processes can explain how collective action is sustained or diminished over time.

**Integrating Self-Determination Theory and the Social Identity Approach: Reciprocal Processes**

While self-determination theory provides a detailed account of autonomous and controlled motivation, it primarily addresses motivation and behavior at the intra-individual level

(see, for example, Vallerand et al., 1997). Self-determination theory considers how some forms of self-regulation are more central to the 'self' but primarily defines this as a personal 'self' with personal goals (e.g., Ryan & Deci, 2000), such as educational, career, or personal health goals. In the context of collective action, however, the processes of motivation are more likely to apply to the social 'self' and to collective goals (Reicher, 1996). This can include political goals such as combating climate change or global poverty, that are pursued as a group. Thus, we look to recent integrations of self-determination and social identity theories (e.g., Amiot et al., 2020) to examine the interplay of social identification and self-determined motivation in the context of this specific yet consequential group behavior.

Recently, researchers have integrated social identity and self-determination theories to explain differences in motivation for behaviors that occur in intergroup contexts and are driven by social, rather than personal, identity (Amiot et al., 2020; Amiot et al., 2014; Amiot et al., 2012; Kachanoff et al., 2019; Thomas et al., 2017; Thomas, McGarty, et al., 2019). Motives that flow from psychological group memberships are understood to reflect *collective self-determination* (Thomas et al., 2017; Thomas, McGarty, et al., 2019). Given the interconnection between identity and the quality of one's motivation (see Amiot et al., 2014), we also examine whether there is an association between social identification and internalization, and whether they jointly predict collective action. Specifically, we propose that identification and autonomous motivation are interrelated and reciprocal; thus, their association is comprised of an identification-internalization process, and an internalization-identification process.

*The Identification-Internalization Process*

We first consider that higher identification fosters autonomous motivation, while lower identification leads to controlled motivation. The existing literature suggests that group

identification structures the kinds of motives that group members can have (see Louis et al., 2004). Ellemers et al. (1997) found that high identifiers were more committed to the group and its goals, even when the group was low-status and group boundaries were permeable. Low identifiers, on the other hand, were more likely to seek individual mobility to improve their personal status (see also Spears et al., 1997). Thus, those who identify more strongly with the group have an internalized commitment to its goals and values and stand with the group regardless of potential rewards, suggesting a high degree of autonomous motivation to strive for collective goals. However, those who do not identify as strongly may not hold the group goals to be as important and may only take part in collective actions when they provide some external reward such as personal status or ingroup approval, as forms of controlled motivation (see also Barreto & Ellemers, 2000; Blackwood & Louis, 2012). Indeed, Stürmer et al. (2003) showed that identification predicts collective action because it fosters a sense of 'inner obligation' to be a 'good' group member and act to benefit the group. This analysis suggests that the more one identifies with a group and perceives it as a core part of their identity, the more they will truly value the goals and norms of that group and thus feel autonomously motivated to engage in behaviors that benefit the group.

We therefore tested the *identification-internalization* process (Figure 6), wherein social identification leads to greater autonomous motivation, which, in turn, leads to sustained action. Social identification was expected to negatively predict controlled motivation, which would not be associated with sustained action, in line with the self-determination literature in other domains (e.g. healthcare, education; Ryan & Deci, 2017c).

*The Internalization-Identification Process*

The reverse is also likely to be true whereby autonomous motivation fosters social identification, but controlled motivation does not. In the context of opinion-based groups (e.g., an anti-poverty identity), the more one's beliefs about an issue and desire to take action are seen as part of their core values, that is, the more group members experience their collective action as autonomously motivated and internalized, the more strongly they will identify with a group that is based around these aspirations. For instance, Thomas et al. (2019) found that in the context of a small interactive group task, internalization of motivation (e.g., experiencing the task as useful and valued) predicted social identification with an opinion-based group in support of securing access to safe drinking water in developing countries, which, in turn, predicted commitment to collective action.

In both social identity and self-determination theories, autonomy is an important precondition of internalized identification. Social identity theory posits that identity reflects subjectively valued, personally important aspects of self as defined by the perceiver themselves (Turner et al., 1987; Turner et al., 2006). Similarly, self-determination theory suggests that people explore and adopt identity commitments to various roles throughout their lives (e.g., artist, musician, hardworking student), and these identities are only successfully internalized if the motivation for identity commitment is autonomous (e.g., La Guardia, 2009; Soenens et al., 2011). In the context of collective action, people may explore roles such as being an 'activist' or someone who is committed to a particular cause, but may not internalize this identity if the motive for commitment is controlled (external to self, imposed) and would therefore not strongly identify with the group. In contrast, those who internalize a social identity feel more strongly that it is part of 'who they are' and are more likely to act according to the norms and goals of the

group. Thus, as autonomous motivation increases, the strength of identification may also increase.

In keeping with this theoretical rationale, we tested a second model, the *internalization-identification* process (Figure 7), whereby autonomous motivation leads to greater social identification which, in turn, promotes sustained engagement in collective action. Controlled motivation will not predict social identification when autonomous motives have been statistically controlled for, and, as such, will not lead to sustained action.

## Study 3

The current research uses longitudinal methods to examine whether autonomous/controlled motivation and social identification jointly predict engagement in collective action, over time. The data were collected as part of a five-year self-report study examining attitudes and behaviors towards global poverty reduction. Only the final two waves of the study are reported here as these were the only timepoints that included items measuring autonomous and controlled motivation for engaging in collective action. Both waves also included items addressing opinion-based group identification (i.e., social identification with supporters of efforts to end global poverty) and collective actions taken to support the cause.

We have theorized that there are reciprocal paths between autonomous motivation (but not controlled motivation) and identification. Thus, we first tested the rank-order associations between autonomous motivation, controlled motivation, identification, and collective action using a cross-lagged panel model. Cross-lagged panel models are well-suited to examining the proposed reciprocal causal relations between motivation and identification (identification-internalization and internalization-identification) as they can test multiple causal directions simultaneously.

Second, our primary focus is on examining within-person changes in motivation, identification, and action over time. Cross-lagged panel models do not disaggregate within-person and between-person effects and are seen as problematic for testing claims about within-person change (Hamaker et al., 2015); thus, we subsequently conducted a set of latent change score models. Latent change score modelling is a type of structural equation modelling that allows us to examine within-person changes over time, controlling for baseline levels (Selig & Preacher, 2009). Unlike cross-lagged panel models, the latent change score approach can examine how scores on one variable predict *changes* in scores on another and allows for individual growth curves (Hamaker et al., 2015). Change (denoted by the symbol Δ) is captured as latent variables, which help to address measurement error; these change variables can then be explained by other predictors. Importantly, modelling change as a variable in and of itself (using latent change score modelling) is ideally suited to addressing theoretical questions relating to intra-individual changes in the quality of motivation (i.e., internalization and externalization), fluctuations in identification, and how action changes (i.e., is sustained or diminished) over time.

We pre-registered two tests to examine the different temporal sequences of motivation, identity, and action (see https://osf.io/823gk/?view_only=500b9bf1ec8e4ec68499e284925c3b39). We did not pre-register the cross-lagged panel model as it was suggested during the review process; these results are therefore exploratory. While we pre-registered the intent of the study and analytical approach to addressing the hypotheses, we did not anticipate some aspects of the modelling approach that we adopted here (see Petersen et al., 2022 for a discussion of pre-registration in the context of longitudinal models). We have declared transparently below where aspects of the analysis were not pre-registered (see Method and Results).

We first tested the *identification-internalization* process (Figure 6); evidence for this sequence would be provided if changes in opinion-based group identification positively predicted changes in collective action, and this relationship was mediated by changes in autonomous motivation. Changes in identification would negatively predict changes in controlled motivation. We then tested the *internalization-identification* process (Figure 7); evidence for this sequence would be provided if changes in autonomous motivation positively predicted changes in collective action, and this relationship was mediated by changes in opinion-based group identification. As our focus is on the type or quality of motivation, our measures capture the extent to which one is motivated by autonomous or controlled motivation. Thus, increases in controlled motivation do not indicate a greater absolute level of motivation, but reflect increasing endorsement in the externally regulated types of motivations; as such, changes in controlled motivation would not be expected to be associated with increases in action.

In both models, we expected that changes in autonomous and controlled motivation would be negatively correlated. Self-determination theory posits that these are distinct types of motivation (i.e., one is self-determined; the other is not), and influences that foster controlled motivation are held to 'crowd out' autonomous motivation (Gagné & Forest, 2008). Thus, as one increases, the other should decrease.

Figures 6 and 7 display the predicted associations between change scores. In addition to modelling paths between change scores, latent change score models can also model within-timepoint associations (e.g., indirect effects at Time 1) and paths from Time 1 constructs to theoretically consequent change variables (e.g., the effect of Time 1 motivation on changes in identification). These paths are included to control for Time 1 effects when modelling

associations between change variables but are also theoretically interesting as they reveal whether baseline levels of one variable predict changes over time in another.

**Figure 6**

*Conceptual Outline of the Identification-Internalization Process: Changes in Opinion-Based Group Identification Positively Predict Changes in Collective Action, Mediated by Changes in Autonomous Motivation.*

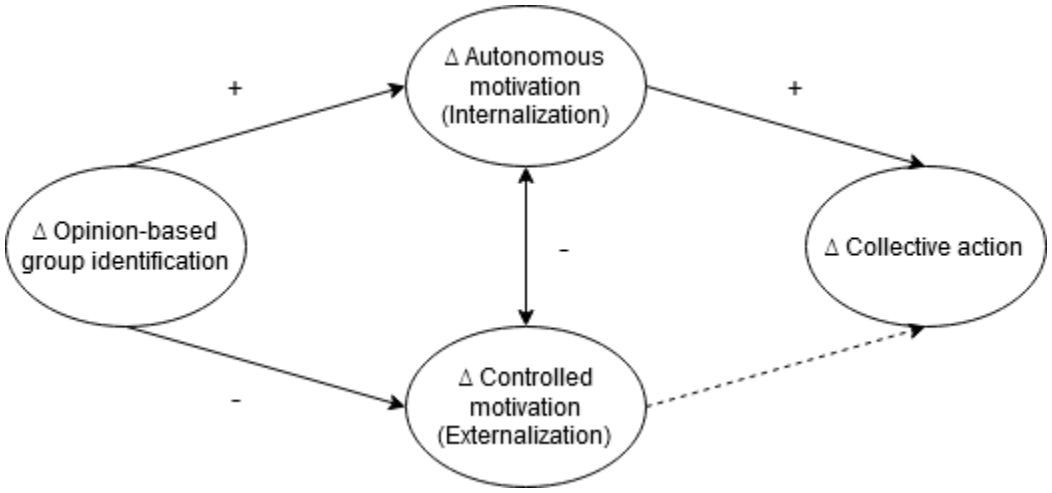
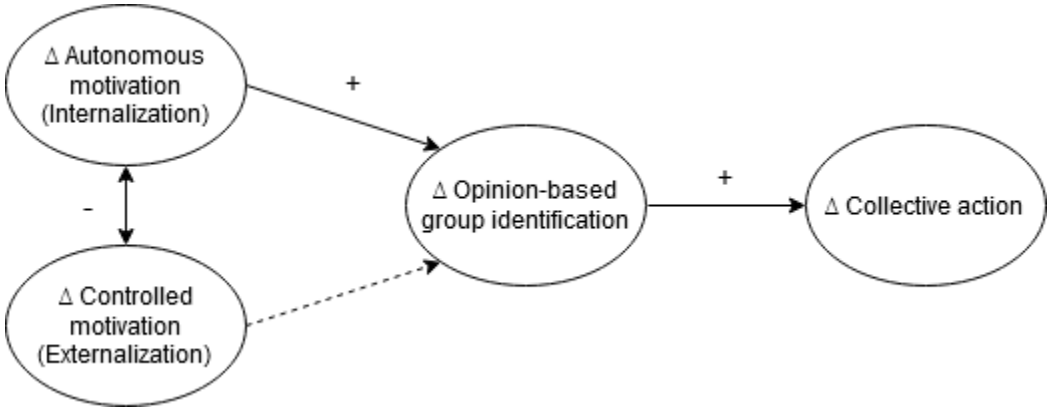



**Figure 7**

*Conceptual Outline of the Internalization-Identification Process: Changes in Autonomous Motivation Positively Predict Changes in Collective Action, Mediated by Changes in Opinion-Based Group Identification.*



## Method

See https://osf.io/vs85n/?view_only=16dc38a749fd4a35b2e9926c321f2337 to view the full questionnaires and https://osf.io/823gk/?view_only=500b9bf1ec8e4ec68499e284925c3b39 for supplementary materials including the data, codebook and analysis syntax.

### Participants

Participants were recruited primarily from the mailing lists of anti-poverty non-governmental organizations (World Vision Australia and the Global Poverty Project), and thus were all supporters of efforts to end global poverty. There were 236 participants who completed both Time 1 and 2. We conducted a post-hoc Monte Carlo simulation using 1000 replications which showed that we had sufficient power (> .90) to detect all intercepts and slopes within the models. The mean age was 53.83 (*SD* = 13.76) and 65.7% were female. The sample was highly educated, with most participants having a bachelor's degree or higher (73.4%). All but two were Australian citizens or permanent residents.

### Procedure

Data collection for the full study occurred once a year from 2012-2016. Data collected in 2015 represents Time 1 in the current study. Participants were primarily contacted via the mailing lists of the two international aid and development organizations and were invited to return at each phase of the study. A link to the questionnaire titled 'Personality and Social Attitudes towards Global Poverty' was distributed via email. In the current paper we focus on measures of opinion-based group identification, self-reported collective action to support global poverty reduction, and self-determined motivation for taking such actions.

This project formed part of a larger, longitudinal data collection with this unique and difficult-to-access sample and, as such, the measures of collective action and identification have

been included in other publications. Time 1 and 2 measures of action and Time 1 measures of identification were previously reported by Thomas, McGarty, et al. (2016). Time 1 and 2 measures of action were also published in (Thomas et al., 2021); neither of these papers consider the quality of underlying motivation. Finally, four of the Time 1 motivation items were reported in Thomas et al. (2017) where they were adapted as part of an index of self-determination, but the discrete scales of continuous and autonomous motivation have not been considered; that paper examined perceptions of other group members' motivation rather than one's own motivation per se. No Time 2 motivation items have previously been reported, and the current paper uniquely focuses on the role of autonomous and controlled motivation (as discrete, qualitatively different forms of motivation) in predicting identification and action over time.

**Measures**

*Opinion-based group identification.* Three items adapted from Cameron (2004) measured social identification as a supporter of the movement to end global poverty. These items were: 'I identify with other supporters of efforts to end global poverty'; 'I am pleased to be a supporter of efforts to end global poverty'; 'I see myself as a supporter of efforts to end global poverty'. Agreement was indicated on a 1-7 Likert scale with higher scores signaling stronger agreement (1=strongly disagree, 7=strongly agree).

*Collective action.* Participants were asked to indicate how frequently they engaged in ten different collective actions in support of global poverty reduction, on a 1-7 Likert-type scale (1=Never, 2=Once per year, 3=Twice per year, 4=Several times a year, 5=Monthly, 6=Weekly, 7=Daily). These actions were: donating, purchasing fair trade, signing petitions, talking to friends or family, writing letters to members of Parliament, wearing an arm band, attending

events, volunteering, attending rallies, and sharing posts on social media. We modelled collective action as an observed, manifest variable averaging all ten items (T1 α = .81, T2 α = .77).

*Autonomous motivation.* Participants were asked to indicate why they had engaged in the actions listed above. There were two items addressing each sub-type of autonomous motivation outlined in self-determination theory (intrinsic motivation, integrated regulation, and identified regulation), with six items in total assessing this type of motivation (adapted from Guay et al., 2003; Guay et al., 2000; Weinstein & Ryan, 2010). Example items include: 'Because engaging in this behavior is in line with my values'; 'Because I think that it is important to act in this way'. All motivation items were rated on a 1-7 Likert scale with higher scores indicating stronger agreement. We pre-registered that all six items would be used as observed indicators of a single latent variable. However, this measurement model evidenced poor fit, $\chi^2 = 365.34(64)$, $p < .001$, AIC = 12379.22, RMSEA = .09, 90% *CI*[.08, .10], CFI = .88, SRMR = .08, and the modification indices suggested that there were substantial cross-loadings among the indicators. Given that the autonomous motivation measure was comprised of three different forms of regulation (intrinsic motivation, integrated regulation, and identified regulation), we created items parcels for each type of regulation, allowing us to retain all the data, reduce model complexity, and address cross-loadings. Parceling is appropriate when one is interested in relationships between latent variables, and not in the items or the latent measurement of the construct itself (Little et al., 2002). The two items for intrinsic motivation were positively correlated ($r$ = .52 at Time 1, $r$ = .55 at Time 2), as were integrated regulation ($r$ = .55 at Time 1, $r$ = .62 at Time 2) and identified regulation items ($r$ = .42 at Time 1, $r$ = .59 at Time 2). The three-item measurement model fit well; see supplementary materials.

*Controlled motivation.* As above, there were two items for each type of controlled motivation (introjected regulation and external regulation). Example items include: 'Because I must do this to feel good about myself'; 'Because engaging in this behavior allows me to be recognized by other people'. However, the latent variable using all four items demonstrated mediocre fit with the data, and one of the items ('Because others would get mad at me if I didn't') did not load substantially onto the latent factor at either time point ($\beta = .25$ at Time 1, $\beta = .29$ at Time 2; discussed further below). Thus, we removed this item, leaving a factor with three items which all had significant moderate-strong factor loadings and good fit (see supplementary materials).

Amotivation was also measured (two items) but was not included in the models and will not be discussed further; some prior research equates amotivation with lack of action (e.g., Weinstein & Ryan, 2010) or absence of autonomous and controlled motivation (e.g., Moran et al., 2012).

## Results

Table 9 displays the means (standard deviation) and correlations for key variables at Time 1 and Time 2. Providing preliminary evidence for the prediction that autonomous motivation will be a stronger predictor of identification and collective action than controlled motivation, it can be seen that, at both Time 1 and Time 2, autonomous motivation was more strongly correlated with action and identification than controlled motivation, although both were positively correlated.

**Table 9**

*Means (*SD*) and Correlations between Focal Latent Variables at Times 1 and 2.*

| | Mean (SD) | Autonomous motivation T1 | Autonomous motivation T2 | Controlled motivation T1 | Controlled motivation T2 | Identification T1 | Identification T2 | Collective action T1 |
|---|---|---|---|---|---|---|---|---|
| Autonomous motivation T1 | 5.47 (0.82) | - | | | | | | |
| Autonomous motivation T2 | 5.55 (0.99) | .66*** | - | | | | | |
| Controlled motivation T1 | 2.36 (1.10) | .41*** | .27*** | - | | | | |
| Controlled motivation T2 | 2.36 (1.11) | .32*** | .34*** | .78*** | - | | | |
| Identification T1 | 5.54 (1.00) | .59*** | .39*** | .31*** | .24*** | - | | |
| Identification T2 | 5.53 (0.98) | .58*** | .49*** | .15* | .17** | .81*** | - | |
| Collective action T1 | 2.44 (0.74) | .30*** | .19*** | .15*** | .12*** | .50*** | .40*** | - |
| Collective action T2 | 2.39 (0.68) | .30*** | .22*** | .12** | .11** | .47*** | .46*** | .85*** |

*Note.* * denotes that correlations are significant at $p < .05$, ** significant at $p < .01$, *** significant at $p < .001$.

**Analysis Strategy**

We first built a measurement model that underpinned all analytical models. We then conducted a cross-lagged panel model to examine the rank-order associations between motivation, identification, and collective action. We then calculated the reliable change indices for each of the key variables to determine whether there were significant within-person changes over time. Finally, we conducted two latent change score models to test the identification-internalization and internalization-identification processes, respectively.

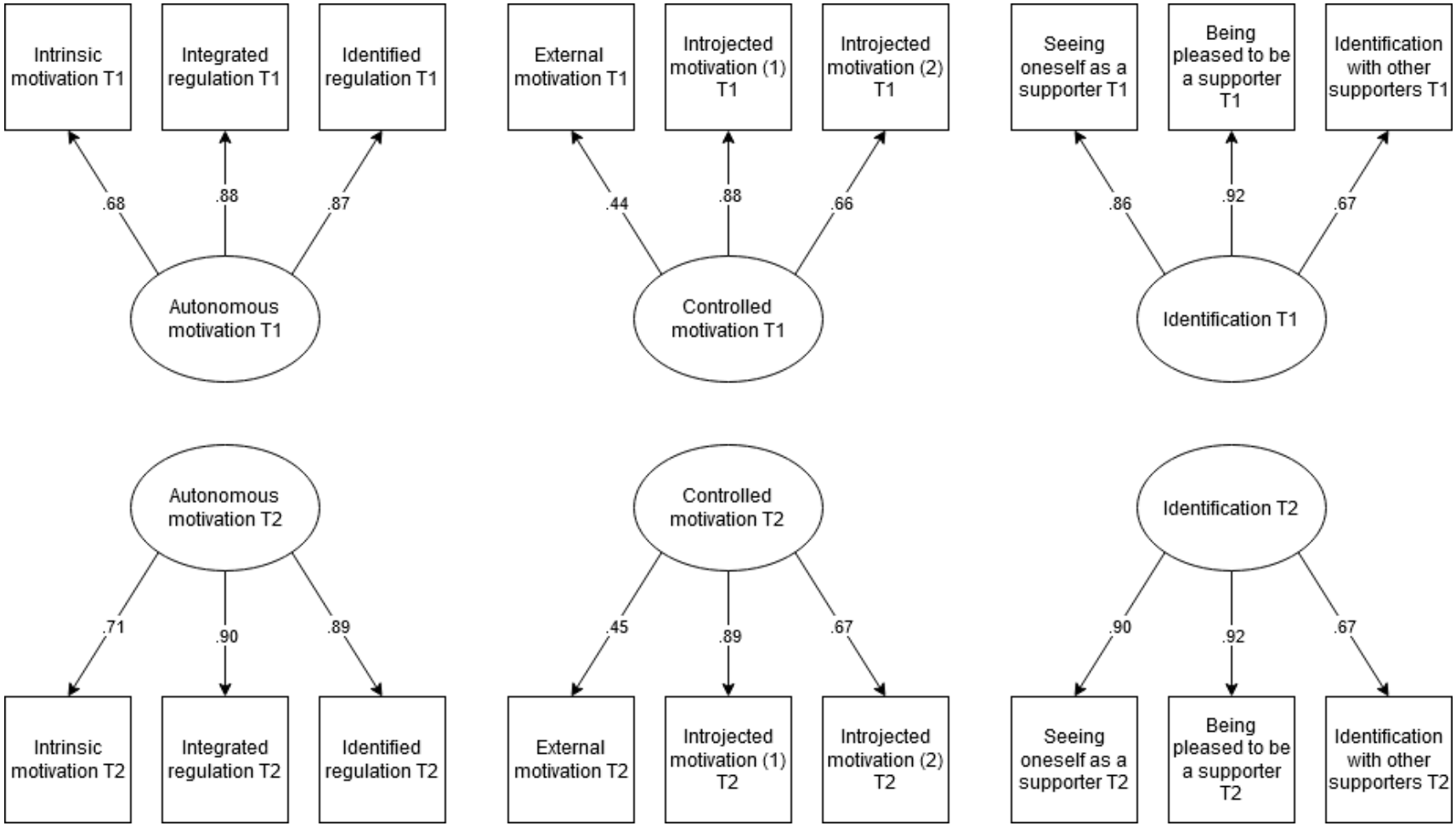
**Measurement Models**

We built the measurement models in Mplus version 8 (Muthén & Muthén, 1998-2017). Acceptable model fit was judged by: a smaller chi-square value, Root Mean Square Error of Approximation (RMSEA) ≤ .06 (Kline, 2015), Comparative Fit Index (CFI) ≥ .95, and Standardized Root Mean Square Residual (SRMR) ≤ .08 (Hu & Bentler, 1999). We first created each latent variable individually and tested for measurement invariance to ensure that the constructs were measured in a similar way over time. All items were constrained to have metric, configural, scalar, and residual invariance, except for one social identification item which was not constrained to have residual invariance; see the supplementary materials for further detail.

Figure 8 displays the measurement model with standardized loadings onto latent factors and shows that all variables evidenced substantial, significant loadings onto the underlying latent factors. The full measurement model evidenced acceptable fit; $\chi^2(170) = 330.54$, $p < .001$, RMSEA = .06, 90% *CI*[.05, .07], CFI = .95, SRMR = .09.

**Figure 8**

*Measurement Model for the Latent Change Score Model.*



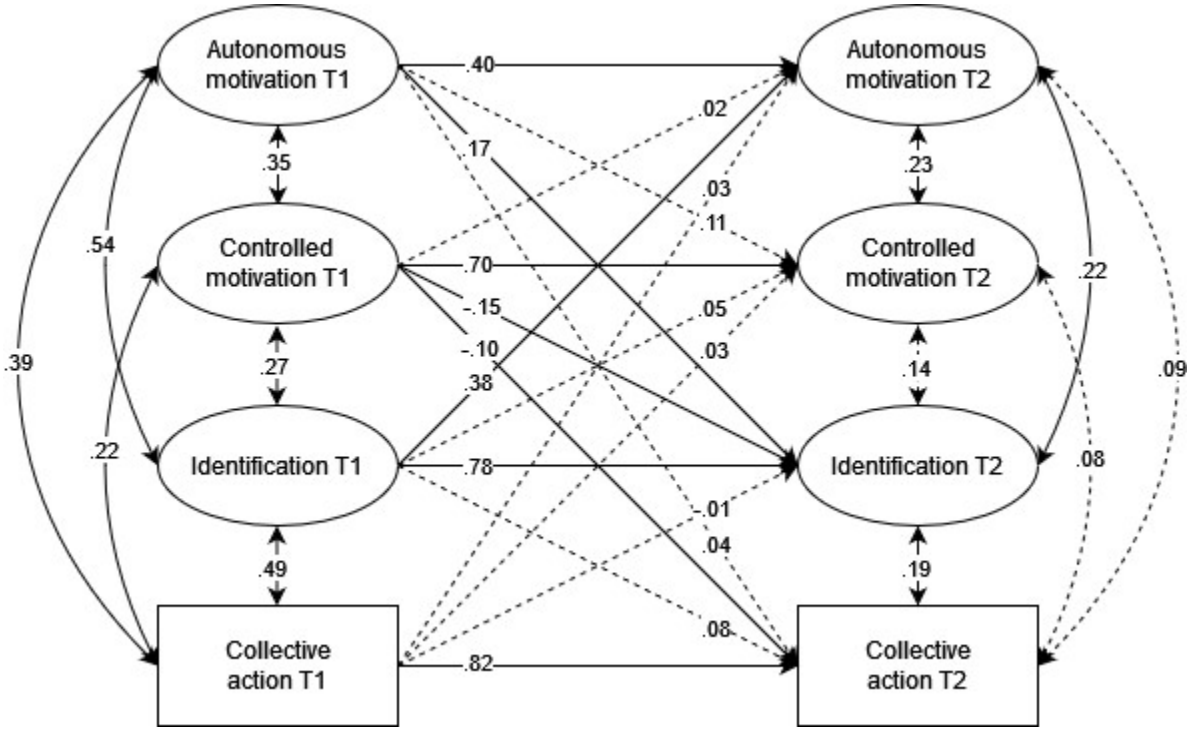

*Note.* Observed items and latent variables were allowed to correlate with themselves over time. All paths are significant at $p < .001$.

**Testing the Reciprocal Associations Between Motivation and Identification**

We conducted a cross-lagged panel model to examine the reciprocal effects of motivation and identification on action; this approach was not pre-registered but was suggested to us during the review process. The cross-lagged panel model (Figure 9) showed that controlled motivation was uniquely and significantly negatively associated with action (β = -.10, 95% *CI*[-.18, -.02], *SE* = .04, *p* = .02), but identification and autonomous motivation were not significant predictors (likely because they are highly correlated; Table 9). The cross-lagged panel model also shows that there were significant cross-lagged associations between identification and autonomous motivation (β = .38, 95% *CI*[.24, .51], *SE* = .07, *p* < .001), and autonomous motivation and identification (β = .17, 95% *CI*[.06, .29], *SE* = .06, *p* = .004). This confirms our theorizing that effects can occur in both causal directions; identification can influence autonomous motivation, and vice versa.

**Figure 9**

*Cross-Lagged Panel Model showing All Standardized Effects from Time 1 to Time 2.*




*Note.* Solid paths are significant at $p < .05$.

**Testing the Latent Change Score Models**

The reliable change indices (Table 10) show that at least two-thirds of participants within the sample meaningfully increased or decreased over time on each variable. Thus, modelling within-person change appears to be an empirically valid as well as theoretically important approach to these data.

**Table 10**

*Reliable Change Indices (RCI) for Key Variables.*

| | *N* | Proportion of *P*s increasing | Proportion of *P*s decreasing | Proportion of *P*s with no change |
|---|---|---|---|---|
| Autonomous motivation | 188 | 49.5% | 35.6% | 14.9% |
| Controlled motivation | 204 | 40.2% | 37.3% | 22.5% |
| Social identification | 227 | 33.0% | 34.4% | 32.6% |
| Collective action | 202 | 38.6% | 44.1% | 17.3% |

We conducted two latent change score models to test Figure 6 and Figure 7, respectively. We based our syntax for the analysis on Selig and Preacher (2009), adapted to a two-timepoint model. Model 1 tested the identification-internalization process; change in identification predicted change in autonomous and controlled motivation, respectively, which predicted change in action. Identification at Time 1 predicted Time 1 autonomous and controlled motivation, which predicted Time 1 action. Identification (T1) predicted change in autonomous and controlled motivation, and both types of motivation (T1) predicted in action.

This model evidenced acceptable fit: $\chi^2(168) = 321.88$, $p < .001$, AIC = 11133.58, RMSEA = .06, 90% *CI*[.05, .07], CFI = .95, SRMR = .08. Figure 10 displays the standardized regression coefficients. Time 1 identification was positively associated with Time 1 autonomous

motivation (β = .58, 95% *CI*[.43, .70], *SE* = .07, $p < .001$), and less strongly, controlled motivation (β = .26, 95% *CI*[.11, .40], *SE* = .07, $p < .001$). Only autonomous motivation was associated with action at Time 1 (β = .38, 95% *CI*[.25, .50], *SE* = .07, $p < .001$). Time 1 identification also predicted change in autonomous motivation (β = .55, 95% *CI*[.35, .76], *SE* = .12, $p < .001$), but not change in controlled motivation ($p = .07$). Change in identification positively predicted change in autonomous motivation (β = .19, 95% *CI*[.02, .37], *SE* = .09, $p = .03$), but change in autonomous motivation did not significantly predict change in action ($p = .47$). Change in identification also did not predict change in controlled motivation ($p = .34$), which did not predict change in action ($p = .79$).

We tested three indirect effects, with autonomous and controlled motivation used interchangeably as mediating variables (i.e., there were six indirect pathways in total; see Table 11). Tests of the indirect effects using 5000 bootstrapped samples revealed no significant effect of change in identification on change in action via internalization. However, there was a significant indirect effect of Time 1 identification on Time 1 action, via Time 1 autonomous motivation, but not via controlled motivation. Finally, there was no effect of Time 1 identification on change in action via change in autonomous or controlled motivation. Thus, although identification and autonomous motivation are related, the data provide limited support for the identification-internalization process and suggest that identification did not affect changes in action via changes in motivation (i.e., internalization).

Model 2 tested the internalization-identification process; change in autonomous motivation and change in controlled motivation (respectively) predicted change in identification, which predicted change in action. Autonomous and controlled motivation at Time 1 predicted identification at Time 1, which predicted Time 1 action. Autonomous and controlled motivation

(T1) predicted change in identification, and identification (T1) predicted change in action. The model evidenced acceptable fit: $\chi^2(171) = 318.36$, $p < .001$, AIC = 11124.07, RMSEA = .06, 90% *CI*[.05, .07], CFI = .95, SRMR = .09. Although the SRMR was slightly higher than acceptable, the other fit indices (CFI, RMSEA) evidenced adequate fit with the data.

Figure 11 displays the standardized regression coefficients for the structural model. Time 1 autonomous motivation was positively associated with Time 1 identification (β = .56, 95% *CI*[.38, .70], *SE* = .08, $p < .001$), which was associated with Time 1 action (β = .50, 95% *CI*[.41, .57], *SE* = .04, $p < .001$); controlled motivation was not associated with identification ($p = .25$). Time 1 autonomous motivation also positively predicted change in identification (β = .41, 95% *CI*[.21, .62], *SE* = .12, $p < .001$), while Time 1 controlled motivation negatively predicted change in identification (β = -.23, 95% *CI*[-.44, -.05], *SE* = .10, $p = .02$). The regression coefficients indicate partial support for the predicted mediation: change in autonomous motivation positively but only marginally predicted change in identification (β = .22, 95% *CI*[-.003, .40], *SE* = .10, $p = .04$), which positively predicted change in collective action (β = .24, 95% *CI*[.08, .40], *SE* = .08, $p = .004$). Change in controlled motivation, however, did not predict change in identification ($p = .42$).

Tests of the indirect effects revealed a significant effect of change in autonomous motivation on change in action, via change in identification (Table 11). There was also a significant indirect effect of Time 1 autonomous motivation on Time 1 action, via Time 1 identification, and a significant indirect effect of autonomous motivation at Time 1 on change in action, via change in identification. Thus, there is evidence that *changes* in autonomous motivation, as well as *initial* levels of autonomous motivation, are associated with changes in action. There was no significant indirect effect of changes in controlled motivation on changes in

action, or Time 1 controlled motivation on Time 1 action. However, there was a significant, negative effect of Time 1 controlled motivation on changes in action, via changes in identification, suggesting that *initial* levels of controlled motivation were associated with reduced action over time.

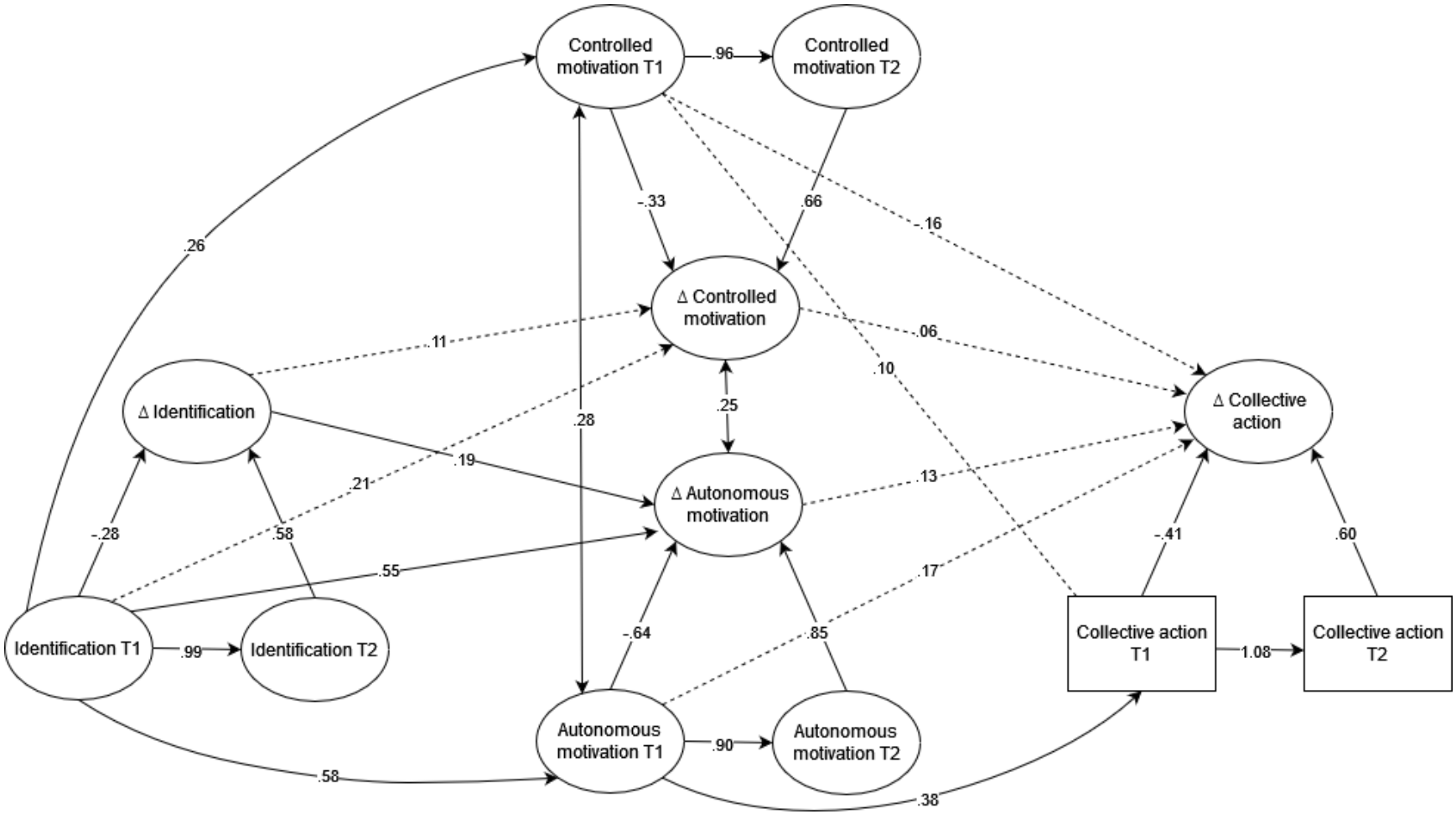
**Table 11**

*Summary of the Tests of the (Standardized) Indirect Effects.*

| | Indirect effect | 95% *CI* | *SE* |
|---|---|---|---|
| **Model 1 (identification-internalization)** | | | |
| Δ Identification → Δ Autonomous motivation → Δ Collective action | .03 | -.003, .09 | .04 |
| Δ Identification → Δ Controlled motivation → Δ Collective action | .01 | -.01, .10 | .05 |
| T1 Identification → T1 Autonomous motivation → T1 Collective action | .22 | .12, .33* | .06 |
| T1 Identification → T1 Controlled motivation → T1 Collective action | .03 | -.01, .09 | .03 |
| T1 Identification → Δ Autonomous motivation → Δ Collective action | .07 | -.02, .17 | .10 |
| T1 Identification → Δ Controlled motivation → Δ Collective action | .01 | -.02, .16 | .11 |
| **Model 2 (internalization-identification)** | | | |
| Δ Autonomous motivation → Δ Identification → Δ Collective action | .05 | .002, .14* | .03 |
| Δ Controlled motivation → Δ Identification → Δ Collective action | .02 | -.02, .08 | .03 |
| T1 Autonomous motivation → T1 Identification → T1 Collective action | .30 | .18, .37* | .05 |
| T1 Controlled motivation → T1 Identification → T1 Collective action | .04 | -.03, .11 | .03 |
| T1 Autonomous motivation → Δ Identification → Δ Collective action | .10 | .03, .21* | .05 |
| T1 Controlled motivation → Δ Identification → Δ Collective action | -.06 | -.15, -.01* | .03 |

**Figure 10**

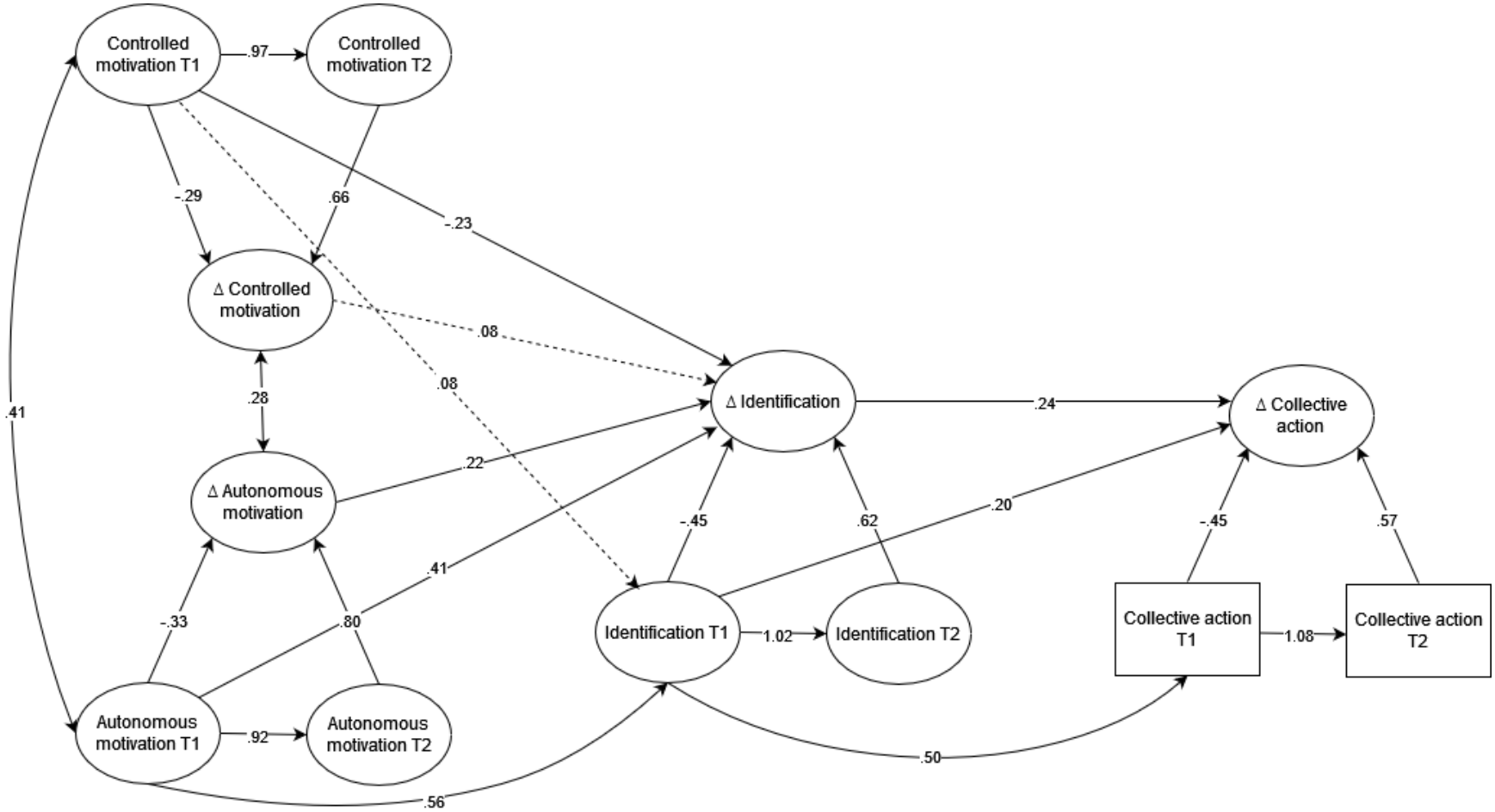
*The Identification-Internalization Structural Latent Change Score Model with Standardized Regression Coefficients.*




*Note.* Solid paths are significant at $p < .05$.

**Figure 11**

*The Internalization-Identification Structural Latent Change Score Model with Standardized Regression Coefficients.*




*Note*. All paths are significant at $p < .05$, except the dotted paths.

# Discussion

What sustains participation in collective action over time? In this research, we examined how the interplay of identification ('who I am') and motivation ('why I engage') shapes commitment to collective action over a one-year timeframe. We examined whether the nature and type of motivation for partaking in anti-poverty action would be a key determining factor in whether such action persists over time. Cross-lagged panel modelling demonstrated reciprocal relations between autonomous motivation and opinion-based group identification. Latent change score modelling supported this conclusion and showed that changes in autonomous motivation and identification both predicted each other in the alternative models. The indirect effect of autonomous motivation on action via identification was significant, but the reverse process was not; however, there was clear evidence of reciprocal change between autonomous motivation and identification. In contrast, we did not find evidence that changes in controlled motivation were associated with changes in identification or action, and initial levels of controlled motivation predicted decreases in action over time. Overall, the findings suggest that autonomous motivation for partaking in collective action predicts sustained participation over time, whereas controlled motivation does not, and that it does so partly because it predicts social identification as a supporter of the cause.

## The Quality of Motivation Helps Explain Collective Action

The present research supports the application of self-determination theory principles to the collective action domain, extending the findings of Koestner et al. (1996) on political engagement and Ferguson et al. (2015) on support for charitable causes. The finding that initial levels and changes in autonomous motivation predict sustained action over time is consistent with the extensive findings that autonomous motivation predicts greater participation and

persistence in domains such as sports, healthcare, education, and the workplace (see Ryan & Deci, 2017c for a review). However, in the context of collective action, autonomous motivation appears to be important because it is associated with social identification, a well-established predictor of collective action (e.g., Bliuc et al., 2007; van Zomeren et al., 2008). Those who are autonomously motivated to combat global poverty – that is, they hold the cause as important to their values and sense of self – are more likely to become increasingly committed to an anti-global poverty opinion-based group over time, and this commitment appears to explain ongoing action.

Initial levels of controlled motivation, on the other hand, negatively predicted changes in identification and action over time, a pattern which also emerged in the cross-lagged panel model. Thus, a key implication of the present research is that external motives for partaking in collective action, such as reputational rewards, ego-enhancement, or avoidance of guilt, may lead to a reduction in social identification over time and may therefore be detrimental to efforts that seek to grow a social movement. These findings suggest that caution should be used when attempting to increase people's commitment to action via external motives. Such attempts may succeed in the short-term but ultimately backfire as controlled motivation reduces identification with the cause over time.

Contrary to our predictions, controlled motivation and autonomous motivation at Time 1, as well as changes in these variables over time, were positively correlated in zero-order terms, as well as in the models. Self-determination theory argues that given their distinct placement on the self-determination continuum, they should be negatively associated (Ryan & Connell, 1989). However, these data suggest that people can experience collective action as both self-serving *and* achieving social change goals, as they may care about the cause while also being motivated by

external rewards. For example, one might hold social justice as central to one's core values and wish to eradicate global poverty, but this may be associated with feelings of guilt if one believes they have not done enough to contribute. Thus, one may seek to alleviate this guilt (a controlled motive) alongside a genuine desire to help the cause (an autonomous motive). Our findings are consistent with some other prior research on self-determination theory which have also found positive associations between autonomous and controlled motives (e.g., Ratelle et al., 2007), including motivation to identify with specific social groups (Amiot & Aubin, 2013; Amiot & Sansfaçon, 2011). Future research could use person-centered methods such as latent profile analysis to examine whether an individual can be high in both types of motivation, and the implications for people's initiation and continued engagement in collective action.

It is also notable that in our measurement model (see Figure 8), the latent variable for controlled motivation was most strongly indicated by introjected regulation (i.e., motivation to engage to avoid feeling guilt or to enhance self-esteem) and relatively weakly by external regulation (i.e., motivation to engage because of reward or punishment). Moreover, we removed one external regulation item as it did not load significantly onto the controlled motivation factor. Introjected regulation is considered to be partially internalized as, although the behavior is not truly accepted as important to the self, it nonetheless stems from evaluative contingencies within the self (e.g., desire to feel pride, avoid guilt) and is not externally imposed (Ryan & Deci, 2017c). Thus, the measurement of controlled motivation in this study was not fully externalized, which may explain the moderate positive correlation between autonomous and controlled motivation, and the small positive correlation between controlled motivation and action in our data. Indeed, there are arguments for the treatment of external and introjected regulations as separate factors (Howard et al., 2020), and a recent meta-analysis shows that introjected

regulation is as closely related to identified regulation as it is to external regulation, suggesting it may represent a 'middle ground' between autonomous and controlled motives (Howard et al., 2017). Future research should include multiple measures of each type of self-regulation, allowing for each subtype to be modelled separately and providing a more comprehensive picture of the role of motivation in collective action engagement.

Additionally, autonomous motivation was most strongly indicated by integrated and identified regulation, and less so by intrinsic motivation. It may be that intrinsic motivation – that is, performing an action for its inherent satisfaction and enjoyment, rather than to achieve a desired outcome – is less relevant in the context of collective action, which is often driven by a desire to combat perceived injustices and is associated with emotions like anger (van Zomeren et al., 2008) rather than with pleasure or enjoyment per se (but see Cohen-Chen & Van Zomeren, 2018; Landmann & Rohmann, 2020; van Zomeren, 2021 for discussion of the role of positive emotions in collective action). This is consistent with research by Koestner et al. (1996), who found that intrinsic motivation was associated with election knowledge and information-seeking, but unlike identified regulation, it was not associated with actual voting behavior.

**The Interplay Between Internalized Motivation and Identification**

Motivation and identification are tightly theoretically interlinked (e.g., Amiot et al., 2014; Louis et al., 2004; Stürmer et al., 2003; Thomas, McGarty, et al., 2019). We tested two causal directions through which they influence action. Cross-lagged panel modelling showed that autonomous motivation and identification both predicted each other one year later; controlled motivation negatively predicted identification. When modelled as associations between changes over time, these findings were also supported; changes in identification predicted changes in autonomous motivation, but not controlled motivation. Conversely, changes in autonomous

motivation, but not controlled motivation, predicted changes in identification. Thus, the findings suggest that the relationship between autonomous motivation and identification is bi-directional and that both constructs are key predictors of action.

Identification fosters autonomous motivation, and vice versa; indeed, it is likely that both may increase simultaneously. Consistent with the assertion that identities, including social identities, are subjectively valued aspects of self (Turner et al., 1987), our findings suggest that autonomous motivation – that is, freely chosen, subjective valuing of the group and its goals – spurs the strengthening of identification which, in turn, leads to action. At the same time, stronger identification with the group as a core part of the self leads to a strengthening of commitment to its goals and values, namely, internalization of motivation. Thus, as one increases, so does the other.

Future research is needed to test this relationship in a context where there are likely to be greater changes in motivation, identification and behavior, such as after the failure of a social movement or via experimental research. Although our findings showed that there were significant effects on collective action only when autonomous motivation preceded identification in the mediation model, these findings are limited by the nature of our sample, who were participating in the final waves of a longitudinal study and thus were relatively established, long-term supporters. It may be that for new supporters, identification with the group would be the starting point that leads to the development of autonomous motivation.

**Limitations and Future Directions**

Our findings demonstrate positive relationships between autonomous motivation, opinion-based group identification, and collective action, as well as changes in these variables over time. The longitudinal nature of the study allows us to impose temporal precedence of

autonomous motivation at Time 1 over changes in identification and action, and the use of latent variables allows us to address measurement error. Nonetheless, with an observational design we cannot authoritatively adjudicate to the causality of identification and internalization. As the application of self-determination theory to the intergroup domain has only emerged in recent years (e.g., Amiot et al., 2020; Amiot et al., 2014), there are currently no experimental studies that manipulate autonomous and controlled motivation in the specific collective action context, and this is an area ripe for future research.

Autonomous motivation was, on average, very high at both time points, suggesting that the sample was overall highly autonomously motivated. This may be because, as noted above, our participants were recruited as part of a longitudinal study and thus were long-standing supporters of global poverty reduction. Future research could look at changes in outcomes for those who may initially be driven by one type of motivation but transition to a qualitatively different form of motivation over time (i.e., from controlled to autonomous, or vice versa). This would provide additional insights into the processes of internalization and externalization. Such research should include samples of less established supporters and examine the role of autonomous and controlled motivation in the early stages of commitment to a movement or cause. Future research should also explore the role of more strongly externalized motivations, as external regulation was, on average, very low in our sample. We also note that there may be circumstances in which controlled motivation does play a role in encouraging collective action and the lack of association in our models does not mean that there is no context or situation in which that relationship might exist.

Finally, future longitudinal research should ideally use three or more waves of measurement to more definitively establish mediation and model change. This would allow for

the use of random-intercept cross-lagged panel models, which can separate within and between-person effects and can test for reciprocal relations between variables, providing more insight into the feedback loop between autonomous motivation and identification.

## Conclusion

The movement to combat global poverty faces particular challenges in recruiting and retaining supporters (Pittinsky & Diamante, 2015). Social movement organizers must consider the most effective strategies to recruit supporters that will persist over time. The current data suggest that motivation and identification are key factors to consider. Members of advantaged groups are most strongly motivated to take action if they value combating global poverty as an outcome that is felt to be personally important and identify strongly with others who care about the issue. Externalized motivators such as avoiding guilt or reaching external recognition appear to provide some incentive to participate in action but may ultimately be less effective in building a sustainable movement, as they do not foster group identification. We suggest that those who seek to inspire others to commit to ongoing action for social change should strive to foster autonomous motivation in supporters and should be cautious about utilizing external incentives for participation.

# Chapter 4

## I Get Knocked Down but I Get Up Again: Autonomous Motivation Sustains Social Identification and Collective Action After (Specific) Failure

### Context Statement

Chapter 4 extends the findings of the previous chapter that autonomous motivation predicts collective action engagement via its effects on identification. Whereas Chapter 3 showed that autonomous motivation sustains action over time, in Chapter 4 I investigate whether autonomous motivation can also sustain collective action engagement after experiencing a setback or failure. Thus, it addresses the third claim made in this thesis that the type of motivation can predict the *persistence* of collective action.

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**Abstract**

Social movements often experience setbacks while striving to achieve (or prevent) social change. We examined whether autonomous motivation (internalised commitment to the cause) would sustain opinion-based group identification and collective action after experiencing failure. In Study 4, we sampled supporters and opponents of marriage equality in Australia ($N$ = 186) before and after Australians voted in favour of changing the law to allow same-sex marriage. In Study 5, we experimentally manipulated success and failure by priming participants to think about examples of their movement succeeding/failing ($N$ = 137). Simple slopes analyses suggested that autonomous motivation predicted greater identification and action intentions only for those who failed in Study 4. In contrast, this effect was present only for those who succeeded in Study 5. However, the two-way interactions were not significant, suggesting that autonomous motivation sustains action regardless of outcome. Study 4 focused on a specific campaign failure (marriage equality vote) while in Study 5 participants reflected on movement failure more broadly (over the last year), which may explain the contradictory effects. In Study 6 we sampled supporters of action to combat climate change ($N$ = 377) and experimentally manipulated outcome (success/failure) and framing of the outcome (specific/broad). We found evidence of a three-way interaction such that autonomous motivation was a stronger predictor of identification after the failure of a specific campaign than when the movement more broadly was failing. We conclude that autonomous motivation can help to buffer the demotivating effects of failure and sustains identification and commitment to action regardless of movement outcomes, but particularly after experiencing a specific moment of movement failure.

## Introduction

Social movements seeking to achieve (or prevent) dramatic social change often face obstacles as they strive to achieve their desired goals. Failure can be experienced as demotivating and for some supporters, it can lead to disengagement with the movement and derail further action (Lizzio-Wilson et al., 2021; Louis et al., 2020). In order to achieve meaningful social change, it is necessary for supporters to continue investing effort and pursuing the movement's goals even after experiencing setbacks or failure (Selvanathan & Jetten, 2020). In the current research, we seek to understand when do people 'push through' failure to support their cause? We examine the quality of underlying motivation as a factor which may help us understand when people are more likely to continue engaging in collective action after failure. Specifically, we draw on the joint insights of self-determination theory (Deci & Ryan, 1985; Deci et al., 1994; Ryan & Deci, 2000) and the social identity approach (Tajfel & Turner, 1979; Turner et al., 1987) to suggest that people will persist in collective action, even in the face of ostensible failure, when they value the movement's goals and hold them to be personally important. We test these claims in the context of the movements to promote/oppose marriage equality in Australia (Study 1), an experimental manipulation involving a sample of supporters for various causes (Study 2), and combating climate change (Study 3).

### Autonomous Motivation Sustains Collective Action after Failure

Self-determination theory (Deci & Ryan, 1985) posits that individuals' motivation for engaging in a behaviour can vary in the extent to which it is self-determined and performed of one's own volition. On the one hand, behaviour can be *autonomously motivated*, meaning that the behaviour or its outcome are felt to be personally important and stem from the individual's goals, values, and sense of self (Ryan & Deci, 2000). In contrast, behaviour can be driven by

*controlled motivation*, when it is performed to attain external rewards or punishments or controlled by external forces, and is not representative of the individual's internalised wants.

Relative to controlled motivation, autonomous motivation has been shown to predict greater persistence over time in a variety of contexts. Autonomous motivation predicts ongoing participation in sport (Hutmacher et al., 2020; Pelletier et al., 2001), long-term engagement in healthcare behaviours (Tam et al., 2019; Williams et al., 2004) and continued pursuit of academic goals (Holding et al., 2024). Although there is a rich literature addressing the role of autonomous motivation in health, education, sports, and the workplace, the literature in relation to political behaviours is relatively nascent (Ryan & Deci, 2017c). One study examined the factors that predict sustained engagement in collective action to combat global poverty over a one-year period, showing that autonomous motives predict ongoing action while initial levels of controlled motivation predicted decreases in action over time (see Chapter 3). In contrast, controlled motivation predicts vulnerability to counterarguments dissuading recycling behaviour (Koestner et al., 2001), and burnout among environmental activists (Sheldon et al., 2016). Thus, it appears that autonomous motivation leads to an ongoing commitment to the behaviour, while controlled motivation is insufficient to drive continued effort.

Other research more directly addresses the relationship between (autonomous, controlled) motivation and continued effort to achieve personal goals after facing setbacks. In a study by Holding et al. (2017), students who initially reported being driven by higher levels of autonomous motivation were less likely to experience doubt about whether to continue pursuing goals after facing setbacks, and ultimately more likely to see continued goal progress. In contrast, those who reported higher levels of controlled motivation were more likely to grapple with uncertainty over whether to continue pursuing goals. Controlled motivation has also been

shown to be associated with greater perception of obstacles as being problematic to goal pursuit, compared to autonomous motivation (Leduc-Cummings et al., 2022; Milyavskaya et al., 2015). Those who are driven by autonomous motivation report greater willingness to exert effort to achieve goals compared to those driven by controlled motivation (Holding et al., 2017), and such internalised motivation appears to be a protective factor against the demotivating effects of setbacks or obstacles. Autonomous goals are more valued and salient than controlled goals and thus are more likely to be resistant to the temptation to disengage when goal pursuit becomes difficult (Sheldon & Elliot, 1998). Thus, autonomous motivation is consistently found to sustain goal pursuit after experiencing setbacks or failure.

In the current research, we extend the findings on personal goal striving to consider the context of collective social and political goals, a relatively novel domain in the literature on self-determination theory (see Ryan & Deci, 2017b). We expect that greater autonomous motivation will be uniquely associated with persistence in collective action after failure. Furthermore, we expect that autonomous motivation will play a greater role in sustaining action after a movement has experienced failure, compared to a movement that has experienced success where autonomous motivation is not as necessary to sustain commitment in the face of setbacks. We also consider the impacts of autonomous motivation on group-based processes relevant to collective action, specifically the social identification that drives commitment to group goals (Thomas et al., 2022; van Zomeren et al., 2008).

**Autonomous Motivation May Sustain Opinion-Based Group Identification after Failure**

Self-determination theory focuses primarily on motivation to strive for individual goals, and has only recently been extended to examine the nature of individuals' motivation to participate in collective action. Collective action is defined as any action that is taken with the

aim of advancing a group's goals (Wright et al., 1990); such groups can include politicized groups (Simon & Klandermans, 2001), or opinion-based groups (e.g., environmentalists, supporters of marriage equality, opponents of marriage equality; see Bliuc et al., 2007). It is important to address the role of these psychological groups, as they underpin the values, goals, and expectations among people who act for the same cause. Thus, to consider motivation for engaging in collective action, it is key to consider how behaviour is internalised to the social-level self and how *collective* goals are experienced as internalised and personally important, rather than individual goals per se (Amiot et al., 2020; Kachanoff et al., 2019; Thomas et al., 2017; Thomas, McGarty, et al., 2019). We draw on an integration of the insights of self-determination theory and social identity theory to consider how individuals are motivated to participate in group-based action. We propose that autonomous motivation will play a key role in sustaining opinion-based group identification after experiencing failure.

According to social identity theory, people are motivated to be a part of successful or high-status groups and are thus driven to protect the status of their ingroups (Tajfel & Turner, 1979). However, when the group is low-status or faced with obstacles or unfavourable comparisons, members can protect their social identities by either distancing themselves from the group, or improving the status of the group (Ouwerkerk et al., 2000). According to the DIME (Disidentification, Innovation, Moralisation, Energisation) model, when a movement experiences success, its supporters react with relative unanimity by continuing to engage in the conventional actions that have proven to be effective (Lizzio-Wilson et al., 2024). However, when the movement fails, supporters react in different ways, with some disidentifying while others 'double down' by increasing their efforts or employing new tactics (Lizzio-Wilson et al., 2021; Louis et al., 2020; Louis et al., 2022). For instance, in the context of the  movement to oppose the

legalisation of same-sex marriage in Australia, Lizzio-Wilson et al. (2021) demonstrated that the failure of this group resulted in the movement experiencing schism, with some members giving up, others reporting heightened radicalism, and others re-energising to continue acting conventionally.

However, what is currently unknown is what characteristics of a movement's supporters drive some members to give up while others strengthen their commitment. It may be that autonomous motivation is a key factor which can explain when people disengage from a group that has experienced failure, or maintain or strengthen identification with the group and re-commit to improving its position. Previous research suggests that autonomous motivation and opinion-based group identification are interlinked and reciprocal processes; the more strongly people support a social cause and experience their support as central to their values and beliefs (reflecting internalised, autonomous motives), the more likely they are to identify with a group characterised by these beliefs (i.e., opinion-based group identification; see Chapter 3). In contrast, over time, controlled motivation appears to undermine identification, as when people experience their collective actions as externally imposed, they do not feel that this behaviour is reflective of who they are and thus are less likely to identify with the group.

We expect that when the group goals are highly internalised and personally important (i.e., reflecting a high degree of autonomous motivation), people will be more likely to continue identifying with the group after experiencing a setback, as they are highly committed to the group identity (e.g., Barreto & Ellemers, 2000; Blackwood & Louis, 2012; Ellemers et al., 1997). However, when the group experiences a success and thus remains high-status, the degree of internalised motivation is likely to be less important in sustaining identification, as there is no threat to social identity. Thus, we expect that failure (versus success) will moderate the

relationship between autonomous motivation and social identification. Opinion-based group identification is a known predictor of collective action (e.g., Agostini & van Zomeren, 2021; Bliuc et al., 2007; Thomas, McGarty, & Mavor, 2016; van Zomeren et al., 2008), and has been shown to mediate the relationship between autonomous motivation and collective action (Chapter 3). We therefore expect that autonomous motivation will sustain both identification and action through failure, and that failure will moderate the indirect effect of autonomous motivation on action, via identification.

## The Present Research

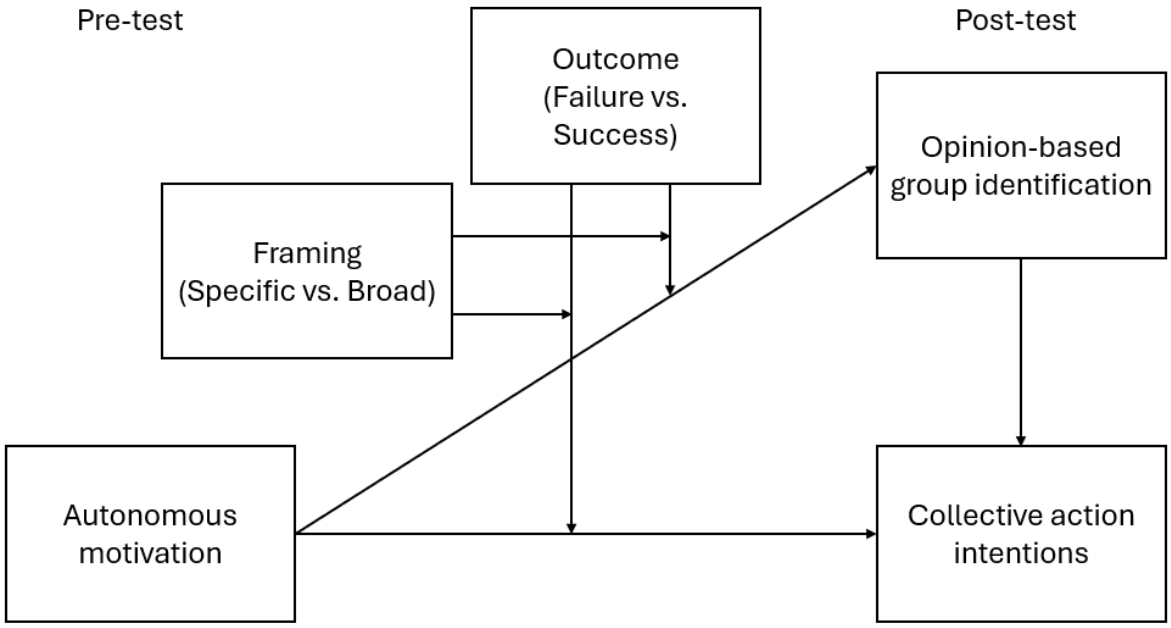
In three studies, we tested the proposition that autonomous motivation would play a key role in sustaining opinion-based group identification and collective action after failure. We expected that the effect of autonomous motivation as a predictor of these two outcomes (identification and action) would become stronger for those who experience failure, compared to those who experience success. When a movement succeeds, its supporters are unlikely to be tempted to disengage or perceive that there are obstacles to goal pursuit (Tausch & Becker, 2013), and autonomous motivation is then less important to sustain action. However, after experiencing failure, autonomous motivation becomes increasingly important to drive continued effort and resilience in the face of setbacks. Furthermore, we proposed that this relationship would be mediated by opinion-based group identification, as people who are more autonomously committed to the cause would be more likely to reaffirm and increase their commitment to the group after failure, while those less committed may disengage. Thus, in all three studies, we tested whether the indirect effect of autonomous motivation on collective action, via identification, would be moderated by experiencing failure or success (see Figure 12). We obtained a measure of autonomous motivation at pre-test, that is, before failure/success occurred

(Study 4) or was manipulated (Studies 5-6), and measures of identification and collective action intentions at post-test. Our predictions would be supported if the indirect effect of autonomous motivation on collective action (via identification) was positive and stronger for those who experienced failure than those who experienced success.

Study 4 was an exploratory test of the hypotheses in the context of the 2017 marriage equality plebiscite in Australia, a real-world context where we surveyed participants before and after a concrete instance of failure/success (i.e., when the outcome was announced). Study 5 was a pre-registered experimental test involving participants who self-reported support for different causes before they were exposed to a manipulation where they were prompted to think of their chosen movement's failures/successes. Finally, Study 6 was a pre-registered test addressing conflicting findings of the previous studies and examined whether the level of abstraction of the movement goals (i.e., concrete, specific goals versus broad, superordinate goals) determines whether autonomous motivation is more important to sustain action after failure, or success.

**Figure 12**

*Moderated Mediation: Indirect Effect of Autonomous Motivation on Action Intentions via Identification, Moderated by Outcome (Studies 4-6) and Framing (Study 6).*




To isolate the effects of autonomous motivation as a uniquely important predictor of resilience after setbacks, we also conducted exploratory analyses examining the role of controlled forms of motivation (introjected and external regulation). There were no effects of controlled motivation except in Study 6; we report these analyses in the supplementary materials.

## Study 4

To examine how the effects of autonomous motivation on identification and action differ based on success and failure, we needed a context where there would be a clear distinction between a group who experienced failure, and one who experienced success. We used data collected during the Australian marriage equality debate in 2017, during which Australian citizens participated in a plebiscite and could opt-in to vote on whether same-sex marriage

should be legalised. The results of the plebiscite would be a percentage of 'yes' votes and 'no' votes with the decision of the majority to be actioned by the government, meaning that among supporters and opponents of same-sex marriage, there would be a clear success for one group and failure for the other. As there was a majority of 'yes' votes, same-sex marriage was legalised by the end of 2017, so we consider the supporters as the 'success' group and opponents as the 'failure' group (see also Lizzio-Wilson et al., 2021).

We therefore employed a quasi-experimental design examining the effects of autonomous motivation at pre-test (i.e., during the voting period and before the outcome was announced) on opinion-based group identification and collective action intentions at post-test (after the outcome of the vote and associated failure/success was known). We compared the nature and strength of this effect between those who experienced failure (opponents) and those who experienced success (supporters). We used action intentions rather than self-reported action in our analyses as self-reported action at Time 2 referred to past actions taken before the date of data collection, i.e., before the results of the plebiscite were known. Thus, future intentions would be affected by success or failure, but past actions could not be affected retrospectively.

We expected that autonomous motivation prior to the outcome (success/failure) would positively predict identification (H1) and action (H2) post-outcome, and there would be an indirect effect of autonomous motivation on action via identification (H3). We expected this indirect effect would be stronger for opponents of marriage equality who experienced failure than for supporters who experienced success (H4).

*Openness and Transparency*

Data were collected at three timepoints (Time 1: during the voting period, Time 2: immediately after the outcome was announced, and Time 3: six weeks later). Data from these

surveys was published in Lizzio-Wilson et al. (2021), including measures of social identification and collective action intentions. Motivation items have not previously been published, and in the present study we used a subset of respondents including only those who indicated a base level of engagement in action. Participants were only shown the motivation measures at each timepoint if they indicated that they had taken at least one action in the prior six weeks. We therefore only included those who took at least one action at Time 1 (and therefore had measures of motivation at Time 1; but did not necessarily take action at Time 2 or 3) and did not include Time 3 measures in this analysis. We did not pre-register our specific expectations; these analyses are therefore exploratory.

## Method

### Participants

Participants ($N$ = 186) were members of the Australian public recruited via Qualtrics who self-identified as either supporters ($n$ = 111) or opponents *(*$n$ = 75) of marriage equality, who had taken at least one action in the six weeks prior to the voting period, and who were eligible to vote in the plebiscite (i.e., citizens over the age of 18). The average age was 59.31 ($SD$ = 13.62). The sample was 45.2% female, 53.8% male, and 1.1% 'prefer to self-describe'. Over a third of participants (39.2%) indicated that they had a diploma or certificate while 36.5% had a bachelor's degree or higher. The majority of the sample (91.9%) identified as straight/heterosexual.

### Procedure and measures

Participants were asked to indicate whether they support or oppose marriage equality and were subsequently shown measures relevant to their position. Responses to all items were measured on a scale from 1 (strongly disagree) to 7 (strongly agree) and averaged to create a

composite score for each variable. The full questionnaire can be viewed at https://osf.io/njwby; relevant measures are detailed below.

*Opinion-based group identification.* Six items measuring identification with opponents or supporters (α = .90) were adapted from Leach et al. (2008) and Postmes et al. (2013), e.g., 'I often think about the fact that I oppose [support] marriage equality.'

*Action intentions.* Participants indicated the extent to which they intended to engage in five collective actions (α = .86): encourage family and friends to oppose [support] same-sex marriage, post on social media, contact their MP, join a peaceful protest, and donate to an organisation that does not break the law.

*Autonomous motivation.* Participants were asked to indicate the extent to which they took the above actions because of a range of motives. There were four items for autonomous motivation (α = .89) adapted from Weinstein and Ryan (2010), e.g., 'These actions are a fundamental part of who I am.'

*Controlled motivation*. There were two items for introjected regulation ($r$ = .46) and two items for external regulation ($r$ = .35).

## Results

**Table 12**

*Means and Correlations for Key Variables for Supporters and Opponents.*

| | 1. | 2. | 3. | 4. | 5. | 6. | Opp. *M* (*SD*) | Supp. *M* (*SD*) |
|---|---|---|---|---|---|---|---|---|
| 1. Autonomous motivation T1 | - | | | | | | 6.05 (0.84) | 5.80 (1.00) |
| 2. Introjected regulation T1 | .68*** | - | | | | | 5.74 (1.14) | 5.62 (1.26) |
| 3. External regulation T1 | .05 | .15* | - | | | | 3.04 (1.48) | 2.83 (1.31) |
| 4. Identification T1 | .57*** | .42*** | .20** | - | | | 5.52 (1.10) | 5.49 (1.02) |
| 5. Identification T2 | .51*** | .39*** | .21** | .67*** | - | | 5.86 (1.21) | 5.72 (1.07) |
| 6. Action intentions T1 | .27*** | .21** | .27*** | .48*** | .36*** | - | 3.74 (1.42) | 4.03 (1.30) |
| 7. Action intentions T2 | .31*** | .25*** | .28*** | .43*** | .54*** | .75*** | 3.66 (1.62) | 3.71 (1.45) |

*Note*. * denotes significant correlation at $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Means and correlations are presented in Table 12. To test the proposed moderated mediation (Figure 12), we used PROCESS version 4.3 in SPSS and ran Model 8 to examine whether the indirect effect of autonomous motivation (IV) on collective action intentions (DV), via opinion-based group identification (M), would differ for supporters and opponents (W). We used the Time 1 measures of autonomous motivation, and Time 2 measures of identification and action. We used 5000 bootstrapped samples in the analyses of the conditional indirect effects for all studies.

Identification and action intentions at T1 were entered as covariates, controlling for prior levels of these variables. We also conducted a sensitivity analysis to examine whether effects differed once the role of controlled motivation was accounted for. We tested an identical model with controlled forms of motivation entered as covariates to isolate the effect of autonomous motivation. The pattern of results was unchanged and so our reporting focuses on the simpler model without covariates.

Autonomous motivation positively predicted identification at Time 2, consistent with H1. Autonomous motivation had no effect on action, which was not consistent with H2. However, this was in line with a pattern of mediation via identification, and identification positively predicted action intentions, providing support for H3. We did not find any significant interaction effects of autonomous motivation and outcome on any dependent variables (see Table 13), and the index of moderated mediation was not significant. Thus, we did not find support for H4.

**Table 13**

*Test of the Effects of Autonomous Motivation on Collective Action via Identification, Moderated by Failure.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Outcome (condition) | -0.42 [-1.24, 0.41] | .42 | - | - |
| Autonomous motivation | 0.24 [0.08, 0.40]** | .08 | - | - |
| Outcome*Autonomous motivation | 0.08 [-0.06, 0.21] | .07 | - | - |
| Identification T1 | 0.56 [0.41, 0.71]*** | .08 | - | - |
| Action intentions T1 | 0.06 [-0.04, 0.16] | .05 | - | - |
| Step 2 | | | | |
| Outcome (condition) | - | - | -0.58 [-1.47, 0.31] | .45 |
| Identification | - | - | 0.53 [0.38, 0.69]*** | .08 |
| Autonomous motivation | - | - | 0.07 [-0.11, 0.24] | .09 |
| Outcome*Autonomous motivation | - | - | 0.11 [-0.04, 0.25] | .08 |
| Identification T1 | - | - | -0.25 [-0.44, -0.07]** | .09 |
| Action intentions T1 | - | - | 0.78 [0.67, 0.89]*** | .06 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated mediation = .08 [-.07, .24], *SE* = .078.

Although there was little overall evidence of moderation, we examined the simple slopes to explore whether the patterns of effects were consistent with our predicted directions. Table 14 shows that there was a significant, positive effect of autonomous motivation on identification in the failure group but not the success group. We did not find a direct effect of autonomous motivation on action in either failure or success group. However, there was a significant, positive indirect effect of autonomous motivation on action, via identification, for the failure group but not the success group. The patterns of results are therefore partially consistent with H4 but must be interpreted with caution as the interaction term was not significant.

**Table 14**

*Simple Slopes Analysis – Effects of Autonomous Motivation by Failure and Success Condition.*

| Motivation | Dependent variable | Level of moderator | *B* | *SE* | 95% *CI* |
|---|---|---|---|---|---|
| Autonomous | | | | | |
| | Identification | Failure | .317 | .120 | .081, .554* |
| | | Success | .162 | .092 | -.018, .343 |
| | Action | Failure | .171 | .133 | -.091, .432 |
| | intentions | Success | -.040 | .100 | -.238, .158 |
| | Indirect | Failure | .170 | .081 | .014, .337* |
| | effect | Success | .087 | .057 | -.028, .200 |

*Note*. * denotes confidence interval does not include zero.

## Discussion

Consistent with our theorising, yet with some caveats given the non-significant interaction term, the slopes suggested that being autonomously motivated prior to an outcome (success/failure) positively predicted identification and action for those who experienced failure (opponents), but not those who experienced success (supporters). These findings suggest that

autonomous motivation plays a role in buffering against the demotivating effects of collective action failure and promotes resilience and persistence in the face of setbacks. On the other hand, autonomous motivation may be less important when the movement experiences successes, as success may not create the conditions when less committed individuals could be tempted to disengage (i.e., the need to exert additional effort, or uncertainty over whether to continue pursuing the goal; Holding et al., 2017). Alternatively, it may be that there was no effect of autonomous motivation on collective action after winning the vote for supporters because they perceived that the job was done and they had achieved their goals; thus, even being highly committed to the cause did not increase their likelihood of taking further action.

The results must be interpreted with some caution, as although we found a significant effect of autonomous motivation in the failure group but not the success group, the overall pattern of moderation was not significant. At face value, this pattern of results may suggest that autonomous motivation is important to sustaining action regardless of success or failure. However, the sample size may also be insufficient to detect the overall pattern of moderated mediation; post-hoc sensitivity analysis using WebPower (an online power analysis software; Zhang & Yuan, 2018) indicated that we had adequate power to detect mediation ($\beta = .93$) but were underpowered to detect moderation ($\beta = .24$). Furthermore, we did not manipulate success and failure in this study, and instead chose two pre-existing groups with highly distinct characteristics. The failure group were opponents of marriage equality advocating to maintain the conservative status quo, while the success group were supporters seeking progressive change. There were also key differences in the tactics used, the leaders within the movements, and the political discourse around the two groups, meaning that there were many confounds and

contextual factors that were impossible to control for using this quasi-experimental approach. We addressed these issues in Study 5 using an experimental design.

## Study 5

Study 1 provided preliminary evidence that autonomous motivation had a positive effect on identification and action in the context of a group that had experienced a failure, but not in the context of a group that had experienced success. In Study 5, we sought to test hypotheses with an experimental design where failure and success were manipulated and participants were randomly allocated to conditions. Furthermore, while Study 4 was tied to a specific context (the marriage equality plebiscite), in Study 5 we recruited Australian citizens more generally who had taken some political action and allowed participants to select a movement of their choosing. Specifically, our sample was comprised of people who reported having taken at least one action other than voting in the last year, as voting in general elections is compulsory in Australia and thus is not a reliable indication of political engagement.

As there was no control group in Study 4, we do not know whether autonomous motivation becomes a stronger predictor of action after failure, and/or decreases in strength after experiencing success relative to a baseline. In Study 5, we included a control group as a comparison to adjudicate these different effects. The control group was not exposed to a manipulation of failure or success and therefore was allowed to vary freely in participants' perceptions of their movement's success/failure. When participants were primed to think about failure, the role of autonomous motivation in sustaining action should become more pronounced compared to the control group; in contrast, when participants were primed to think about success, the role of autonomous motivation should be stronger for the control group.

We hypothesised that autonomous motivation prior to the manipulation would positively predict identification (H1) and action (H2) post-manipulation. We expected there would be an indirect effect of autonomous motivation on action via identification (H3) and, as such, identification would positively predict action (H4). We predicted that the direct and indirect effects in H1-3 would be stronger in the failure condition than in the control condition (H5). Finally, we predicted that the direct and indirect effects in H1-3 would be stronger in the control condition than in the success condition (H6).

Pre-registration for Study 5 occurred after data collection, but before examining the data, and can be viewed at https://osf.io/8ryk6/?view_only=c76508adba144666b96d34ceab7096c8. The full questionnaire and other materials associated with Study 5 can also be accessed at this link. Deviations from the pre-registration are declared transparently below.

## Method

### Participants and Design

Of 620 participants recruited at Time 1, there were 305 who completed the survey at Time 2, approximately 2-5 weeks later. We removed 18 participants who had missing data on key variables, one participant who wrote a nonsensical answer to the manipulation, and one who selected ‘I have just clicked through’ when asked if they had taken the survey seriously. We did not pre-register any further exclusions. However, at the start of the survey, participants were instructed to choose whichever cause they had been most actively involved with in the past 12 months. We assumed that most participants would choose the same cause at both timepoints, but 103 participants did not. We excluded these participants from the analyses as we could not meaningfully compare the effects of internalised motivation in the context of one cause or issue (at Time 1) on subsequent responses to other issues (at Time 2). We therefore had a total of 182

participants in a 2 (success: yes/no) x 2 (failure: yes/no) x 2 (time: pre/post) design. However, we only included participants who received the success manipulation only, failure manipulation only, or neither (control), as per our pre-registration, so the main analysis only included 137 participants.

The mean age was 45.67 (*SD* = 17.03), and 63.5% of the sample were female. The sample was highly educated, with 48.1% indicating that they had completed a Bachelor's degree or higher.

**Procedure**

Participants were recruited via Qualtrics Panels and completed the survey titled 'How Do You Express Your Views About Social Issues?' At Time 1, after indicating consent to participate, participants were shown a list of popular causes and asked to indicate which ones they had been actively involved with in the last year. They were also given the option to write in up to three causes of their choosing. Participants were then asked to select one cause that they had been most involved in. Table 15 displays the list of possible choices, and number of participants who selected each option. Subsequently, we used piped text to insert the cause that they had chosen in all remaining questions in the survey (where relevant). They then completed measures of the dependent variables.

Participants completed the Time 2 questionnaire between 2-5 weeks after completing Time 1, allowing us to obtain a measure of motivation without creating demand characteristics for the experimental phase. Upon entering the survey, they were again asked to indicate which cause they had been most involved with in the last year. They were then shown the manipulation of failure/success, followed by the rest of the measures, which were identical to those in the Time

1 survey. At the end of the survey, we also added a manipulation check measuring participants' perceptions of their movement's failure and success.

**Manipulation**

We primed participants to consider their movement's successes or failures by showing them this prompt: 'In the box below, please describe and reflect on at least 3 ways the [chosen cause] movement has failed [been successful] in the last year. This could include failures [successes] related to achieving your central goals, increasing public awareness of the cause, swaying stakeholders' opinions, and/or building an oppositional movement.' There was a 'Success' group who only wrote about success ($n$ = 49); a 'Failure' group who only wrote about failure ($n$ = 45); a 'Control' condition who were not shown either prompt and did not complete a writing task ($n$ = 43); and a 'Combined' condition who were shown both prompts ($n$ = 45). We omitted the 'Combined' condition from our analyses as we are primarily interested in isolating the effects of failure and success (as compared to a baseline) but report an analysis using this group in the supplementary materials.

**Measures**

All items were assessed at both timepoints. Responses were measured on a scale from 1 (strongly disagree) to 7 (strongly agree) unless stated otherwise, and averaged to create a composite score for each variable.

*Manipulation check.* There was one manipulation check of failure, and one of success: 'To what extent do you agree that: The [chosen cause] movement has experienced failures [successes] within the last year' rated as 1 (not at all)-7 (very much).

*Opinion-based group identification.* Participants were asked to what extent they identified with supporters of their chosen cause using the same adapted items from Study 1 (α = .90), e.g., 'I identify with other members of the [chosen cause] movement.'

*Action intentions.* Participants indicated the likelihood that they would do the following actions in future (1 = not at all likely, 7 = very likely): attend a public meeting, contact a politician or public official, prepare and submit a public submission, sign a petition offline, sign an online/digital petition, collect signatures for a petition, encourage family and friends to support this cause, write or share a post on social media, donate to an organisation that is working to promote this cause, attend a public rally or street march (α = .84).

*Motivation.* The same items were used as in Study 1 to measure autonomous motivation (α = .85), introjected regulation ($r$ = .61), and external regulation ($r$ = .42).

**Table 15**

*Number of Participants Who Selected Each Cause.*

| Cause | Frequency | Cause | Frequency |
|---|---|---|---|
| Climate change | 63 | Fee increases at Australian universities | 2 |
| Animal rights | 43 | Anti-immigration | 2 |
| Women's rights | 11 | Refugee rights | 3 |
| Pro-LGBT rights | 4 | Pro-religious freedom | 1 |
| Black Lives Matter | 23 | Anti-lockdown | 2 |
| All Lives Matter | 4 | Anti-vaccination | 2 |
| Pro-life | 4 | Pro-vaccination | 10 |
| Pro-choice | 0 | Other | 8 |

**Table 16**

*Means and Correlations for Key Variables.*

| | 1. | 2. | 3. | 4. | 5. | 6. | Failure *M (SD)* | Success *M (SD)* | Control *M (SD)* |
|---|---|---|---|---|---|---|---|---|---|
| 1. Autonomous motivation T1 | - | | | | | | 5.37 (1.00) | 5.74 (0.94) | 5.62 (1.01) |
| 2. Introjected regulation T1 | .51*** | - | | | | | 5.57 (1.30) | 5.60 (1.40) | 5.52 (1.17) |
| 3. External regulation T1 | -.06 | .12 | - | | | | 3.11 (1.65) | 2.78 (1.53) | 2.71 (1.56) |
| 4. Identification T1 | .47*** | .35*** | .15* | - | | | 4.81 (1.06) | 5.15 (1.30) | 5.01 (1.04) |
| 5. Identification T2 | .50*** | .28*** | .08 | .63*** | - | | 4.90 (1.15) | 5.21 (1.30) | 5.22 (0.95) |
| 6. Action intentions T1 | .30*** | .20** | .13 | .23** | .27*** | - | 3.90 (1.26) | 4.06 (1.32) | 4.40 (1.16) |
| 7. Action intentions T2 | .37*** | .27*** | -.03 | .26*** | .44*** | .53*** | 4.74 (1.03) | 4.33 (1.39) | 4.79 (1.05) |

*Note*. * denotes correlation is significant at $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

## Results

### Manipulation Check

We first tested whether the manipulation was effective. In our pre-registration, we stated that we expected those in the success condition to score significantly higher on average than the failure and control conditions and above the midpoint of the scale (4) for the success manipulation check item, while those in the failure condition should score significantly higher than the success and control conditions and above the midpoint of the scale for the failure item. We conducted a one-way ANOVA in SPSS and found partial support for the effectiveness of the success manipulation, $F(2, 134) = 4.73$, $p = .01$, $\eta^2 = .07$; the success group ($M = 5.00$, $SD = 1.50$) scored higher on the manipulation check item than the failure group ($M = 4.18$, $SD = 1.35$, $p = .01$, Cohen's $d = 0.57$), but was not significantly different from the control group ($M = 4.86$, $SD = 1.23$, $p = .88$). There were no significant differences in mean scores on the failure manipulation check ($M = 4.14$-$4.58$, $SD = 1.33$-$1.66$), $F(2, 134) = 1.21$, $p = .30$, $\eta^2 = .02$. All groups scored above the midpoint of the scale for both success and failure checks. We therefore concluded that the success manipulation had functioned as intended, but we did not effectively manipulate failure.

### Moderated Mediation

We used the same analysis as Study 4 (PROCESS Model 8) to test the proposed moderated mediation. We tested the indirect effect of autonomous motivation (T1) on collective action intentions (T2), via identification (T2). Identification and action intentions at T1 were entered as covariates to account for stability over time. We used the multi-categorical option in PROCESS to specify the moderating variable using effect coding; failure (effect coded 1) was compared with control (effect coded -1) to test H3, and success (effect coded 1) was compared

with control (effect coded -1) to test H4. As in Study 4, we conducted a sensitivity analysis comparing a version of the model with the other motivations (introjected, external) entered as covariates. The pattern of results was the same and thus we report the simpler model (per our pre-registration).

The direct and indirect effects are presented in Table 17. Autonomous motivation (T1) positively predicted identification (T2), providing support for H1. There was no direct effect of autonomous motivation on action intentions (T2), inconsistent with H2, but consistent with a pattern of mediation via identification (H3). There was a positive effect of identification on action (H4).

H5-6 addressed the moderated mediation (see Table 17). There were no significant interactions between autonomous motivation and failure, or success, on either identification or collective action intentions. The index of moderated mediation was also not significant for the comparison between the failure and control groups or between the success and control groups. Thus, H5-6 were not supported. As with Study 4, we examined the simple slopes on an exploratory basis (see Table 18). Contrary to our expectations, autonomous motivation positively predicted identification only in the success group, but not in the failure or control groups. There was a significant indirect effect of autonomous motivation on action intentions via identification for the success group, but not for the failure and control groups. Thus, there is some evidence showing an opposite pattern to the results found in Study 4, though these results must be interpreted with caution due to the lack of significant interaction term.

**Table 17**

*Test of the Effects of Autonomous Motivation on Collective Action via Identification, Moderated by Failure and Success.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | SE | *b* [95% *CI*] | *SE* |
| Failure (condition) | 0.57 [-0.62, 1.77] | .60 | - | - |
| Success (condition) | -1.11 [-2.34, 0.12] | .62 | - | - |
| Autonomous motivation | 0.26 [0.10, 0.42]** | .08 | - | - |
| Failure*Autonomous motivation | -0.11 [-0.33, 0.10] | .11 | - | - |
| Success*Autonomous motivation | 0.19 [-0.02, 0.40] | .11 | - | - |
| Identification T1 | 0.51 [0.36, 0.65]*** | .07 | - | - |
| Action intentions T1 | 0.09 [-0.04, 0.21] | .06 | - | - |
| Step 2 | | | | |
| Failure (condition) | - | - | -0.02 [-1.27, 1.22] | .63 |
| Success (condition) | - | - | -0.37 [-1.67, 0.92] | .65 |
| Identification | - | - | 0.39 [0.21, 0.57]*** | .09 |
| Autonomous motivation | - | - | 0.16 [-0.01, 0.34] | .09 |
| Failure*Autonomous motivation | - | - | 0.05 [-0.17, 0.28] | .11 |
| Success*Autonomous motivation | - | - | 0.00 [-.022, 0.23] | .11 |
| Identification T1 | - | - | -0.08 [-0.26, 0.09] | .09 |
| Action intentions T1 | - | - | 0.40 [0.27, 0.52]*** | .07 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated mediation for failure = -.04, *CI*[-.14, .03], *SE* = .04. Index of moderated mediation for success = .07, *CI*[-.02, .19], *SE* = .05.

**Table 18**

*Simple Slopes Analysis – Effects of Autonomous Motivation at Different Levels of Outcomes.*

| Motivation | Dependent variable | Level of moderator | *B* | *SE* | 95% *CI* |
|---|---|---|---|---|---|
| Autonomous | | | | | |
| | Identification | Failure | .146 | .135 | -.122, .414 |
| | | Success | .450 | .139 | .175, .726* |
| | | Control | .183 | .136 | -.085, .452 |
| | Action | Failure | .219 | .142 | -.061, .500 |
| | intentions | Success | .166 | .151 | -.132, .465 |
| | | Control | .108 | .142 | -.174, .390 |
| | Indirect | Failure | .057 | .046 | -.037, .150 |
| | effect | Success | .176 | .083 | .029, .356* |
| | | Control | .072 | .054 | -.029, .180 |

*Note*. * denotes confidence interval does not include zero.

## Discussion

Consistent with Study 4, we found that stronger autonomous motivation at Time 1 predicted stronger identification, and in turn, greater collective action intentions at Time 2; autonomous motivation did not exert an effect on action once identification had been controlled for, consistent with a pattern of mediation (Baron & Kenny, 1986). Also consistent with Study 4, we did not find evidence that failure and success moderated this relationship. However, we found some evidence of an opposite pattern to Study 4; in Study 5, the indirect effect of autonomous motivation on action via identification was present for those who were primed to think of success, but not those who were primed to think of failure. Thus, the results of Study 5 do not support the idea that autonomous motives increase in importance to sustain collective action after failure. Rather, they appear more important to sustain action when the movement is succeeding.

There were some key differences in the contexts in which Studies 4 and 5 were conducted which may help to explain these contradictory effects. Study 4 involved a concrete, specific instance of failure (the outcome of the marriage equality postal survey), while Study 5 referred to more general or abstract perceptions of a social movement experiencing failures 'within the past year'. It may be that autonomous motivation is particularly important to sustain action after a specific instance of failure, but when the movement overall might still have potential to succeed. However, when reflecting on broader movement outcomes, autonomous motivation may be more effective at sustaining action for movements that are succeeding.

There were also some aspects of Study 5 that made it difficult for us to control or fully understand how participants interpreted success and failure. Firstly, as participants were allowed to choose their own preferred cause and generate their own examples of failure and success, there was likely to be a high degree of variability related to the very different contexts and events

on which participants reflected (see Table 15). As with Study 4, we also had a relatively small sample size; post-hoc sensitivity analyses using WebPower suggested that we had insufficient power to detect moderation by failure (β = .14) or success (β = .20). Finally, our manipulation check did not suggest that we effectively manipulated failure, though there was some evidence that we effectively manipulated success. These issues were addressed in Study 6.

## Study 6

In Study 4, there was some evidence to suggest that autonomous motivation predicted identification and collective action intentions for those whose movement experienced an instance of failure, but not those who succeeded, while in Study 5, autonomous motivation predicted outcomes for those who succeeded, but not those who were asked to consider that their movement was broadly failing. We therefore conducted a final study seeking to address the limitations of both Study 4 and 5 by adopting an experimental manipulation (per Study 5) while exercising greater control over other sources of variation. We chose a specific cause, the movement to combat climate change, and recruited self-identified supporters. We provided text stating that the climate movement is failing or succeeding, including examples and quotes from an expert, to create a more consistent manipulation. We also manipulated the framing of failure and success as applying to a specific, concrete outcome (the campaign to obtain a commitment to phaseout of fossil fuels at the 2023 United Nations Climate Change Conference) versus a broader, abstract movement (the climate movement more generally) to explore whether the framing and psychological distance of the movement goals may explain the contradictory findings between the first two studies. Finally, we collected a larger sample to obtain greater power and implemented a single-timepoint, pre- and post-manipulation design to avoid risk of attrition.

We consider that the two-way interaction discussed thus far may also be moderated by the framing of the movement goal as specific or broad; Figure 12 depicts the proposed three-way interaction. We propose that when the focus is on a specific, concrete goal, autonomous motivation is a stronger predictor of sustained action after failure than success. Failure in the context of a specific goal may increase perceptions of illegitimacy without reducing perceptions of instability, both of which are necessary for collective action (Ellemers et al., 1993). Research on goal striving and goal achievement suggests that the more important it is to an individual to achieve an outcome, the more strongly they experience outcome-related emotions (Pekrun & Stephens, 2010). Thus, when the movement goals are specific, failure may strengthen the relationship between autonomous motivation and collective action, as it elicits anger (Tausch & Becker, 2013). In contrast, research on goal striving suggests that positive feedback for psychologically near, specific goals signals to committed individuals that sufficient progress has been made and increased effort is not required, and thus has a dampening effect on further action (Fishbach et al., 2010; Fishbach et al., 2009).

However, when the focus is on a broad, abstract goal, we expect that autonomous motivation will be a stronger predictor of continued action after success, rather than failure. When the broader movement is failing over a longer period of time, supporters may perceive that the situation is stable, leading even the most highly invested supporters to disengage. In contrast, experiencing some success or receiving positive feedback when pursuing a psychologically distant goal is interpreted as affirming one's commitment to the goal rather than signalling sufficient progress, as the goal is still far from reach (Fishbach et al., 2010). Thus, the more people autonomously value the cause, the more success re-affirms their commitment to action and thus encourages further pursuit.

We pre-registered hypotheses for Study 6. Pre-registration occurred prior to data collection (see https://osf.io/8ryk6/?view_only=c76508adba144666b96d34ceab7096c8 for all materials associated with Study 6). We predicted that there would be a three-way interaction between outcome, framing, and autonomous motivation on identification. Autonomous motivation would positively predict identification (H1) and action intentions (H2). When reflecting on a specific campaign, this relationship would be stronger for those in the failure condition than the success condition (H3). However, when reflecting on the broader movement, this relationship would be stronger in the success condition than the failure condition (H4). Finally, we predicted that there would be moderated moderated mediation such that the three-way interaction between outcome, framing and autonomous motivation on action intentions would be mediated by identification (H5).

## Method

### Participants and Design

We recruited supporters of climate action living in the US. We recruited 404 participants in total who completed the survey. This was based on a G*Power calculation suggesting that a minimum 395 participants were required to detect a three-way interaction with a small effect size. Following our pre-registration, we removed four participants for failing an attention check and 23 who failed a comprehension check (described below), resulting in a final sample of 377 participants. The average age was 43.70 (*SD* = 13.17) and the sample was 45.5% female, 53.6% male, and 0.5% non-binary/other. The sample was highly educated, with 71.3% possessing a Bachelor's degree or higher.

The experiment employed a 2 (outcome: failure, success) x 2 (framing: specific, broad) design. Autonomous motivation was measured prior to the manipulation, while identification and action intentions were measured after.

**Procedure and Manipulations**

We recruited participants through MTurk to participate in our survey on Qualtrics titled 'Attitudes and behaviours of people who support climate action.' The survey took approximately 10 minutes to complete. We informed participants that we would award a 50c bonus payment if they demonstrated that they had paid attention to the materials. After consenting to proceed, participants were presented with one eligibility question: 'Do you support global action to combat climate change?' Only participants who responded 'yes' were eligible to complete our study. They were then presented with measures of past action and motivation as our pre-manipulation measures. Participants were randomly allocated to one of four conditions: specific-success, specific-failure, broad-success, and broad-failure. They were shown a short text about the current state of the climate movement with different content depending on the allocated condition.

Participants in the specific conditions read text about the 2023 United Nations Climate Change Conference (known as COP28) which suggested that the meeting was a success as 'for the first time ever, the final agreement between participating countries included acknowledgement of the need to transition away from fossil fuels', or a failure because 'despite the efforts of campaigners, the final agreement between participating countries failed to include any commitment to phase out fossil fuels.' Thus, the information in both texts was factual, but we manipulated whether this was portrayed as a success or failure by presenting transition or phaseout of fossil fuels as the campaign's goal.

In the broad conditions, we focused on ‘the climate movement’ rather than any specific event or campaign. We stated that the movement is succeeding because ‘investment in renewable energy continues to increase every year, and major falls in the cost of solar and wind energy suggest that the end of fossil fuels is near,’ or failing because ‘carbon emissions continue to increase every year, and the approval of hundreds of new oil and gas projects suggests that the end of fossil fuels is nowhere in sight.’ The full manipulation text can be viewed in the supplementary materials.

Participants were required to stay on this page for at least thirty seconds. They were then shown the post-manipulation measures, including comprehension and manipulation checks, measures of opinion-based group identification and collective action intentions, a range of other dependent measures that we investigated on an exploratory basis, and demographic questions. Finally, we asked participants: ‘Which of these topics was discussed?’ We granted the 50c bonus to participants who selected ‘climate change’ out of four possible topics and had also correctly identified whether the text they had read was about COP28 or the climate movement more generally. Those who failed the attention checks were still paid but were removed from analyses.

**Measures**

*Motivation*. We used the same measures of autonomous motivation (α = .85), introjected regulation (*r* = .62) and external regulation (*r* = .60) as Study 4 and 5.

*Opinion-based group identification*. We used the same six items as previously, with a specific focus on identification with supporters of action to combat climate change (α = .90).

*Collective action intentions.* We asked participants to indicate their likelihood of taking the following actions in the next twelve months: write or share a post on social media, sign a petition, encourage friends and family to support the cause, donate to an organisation, attend a

peaceful protest such as a public rally or street march, and contact a politician urging them to take action ($\alpha = .86$).

*Manipulation check*. Participants were asked to indicate whether the article they read had described goals that were 'very real and concrete' or 'very abstract and distant,' on a sliding scale from 0-100 with higher scores indicating greater abstractness. They were also asked whether in their opinion, COP28/the climate movement more generally (depending on which movement they read about) was a success or a failure, on a similar sliding scale, with higher scores indicating greater perceived failure.

*Other measures*. We also measured psychological and temporal distance of climate change, emotions, radical action intentions, group efficacy, participative efficacy, and perceived instability and illegitimacy of the current situation regarding climate change. These are beyond the focus of the current paper.

**Table 19**

*Cell Means and Correlation Matrix.*

| | 1. | 2. | 3. | 4. | Specific failure *M (SD)* | Specific success *M (SD)* | Broad failure *M (SD)* | Broad success *M (SD)* |
|---|---|---|---|---|---|---|---|---|
| 1. Autonomous motivation | - | | | | 5.20 (1.24) | 5.21 (1.20) | 5.23 (1.20) | 5.21 (1.15) |
| 2. Introjected regulation | .62*** | - | | | 4.70 (1.55) | 4.80 (1.51) | 4.76 (1.50) | 4.89 (1.35) |
| 3. External regulation | -.17*** | .03 | - | | 2.61 (1.34) | 2.55 (1.87) | 2.64 (1.35) | 2.84 (1.29) |
| 4. Identification | .61*** | .45*** | -.04 | - | 4.87 (1.19) | 4.98 (1.03) | 5.03 (1.15) | 5.12 (1.02) |
| 5. Action intentions | .53*** | .50*** | .03 | .66*** | 4.70 (1.22) | 4.47 (1.53) | 4.86 (1.40) | 4.94 (1.27) |

# Results

## Manipulation Checks

We first conducted a factorial ANOVA comparing outcome and framing conditions on the manipulation check items. As expected, there was a significant main effect of outcome wherein participants in the failure groups scored higher on the failure manipulation check than those in the success groups, $F(1, 372) = 289.25$, $p < .001$, $\eta 2p = 0.44$. Unexpectedly, there was also a significant interaction between outcome and framing conditions, $F(1, 372) = 51.37$, $p < .001$, $\eta^2 p = .12$. The specific-failure group rated failure as higher than the broad-failure group, $t(188) = 6.15$, $p < .001$, Cohen's $d = .89$. The broad-success group rated failure as higher than the specific-success group, $t(184) = -4.05$, $p < .001$, Cohen's $d = 0.60$. All failure groups scored above the midpoint, while all success groups scored below the midpoint. Thus, the manipulation of outcome was effective; however, both manipulations were stronger when the framing was specific (i.e., failure was higher in the failure condition, but success was higher in the success condition) than when it was broad. This was likely because participants had their own pre-existing beliefs about the status of the broader climate movement that were more difficult to manipulate experimentally.

**Table 20**

*Cell Means on Outcome Manipulation Check.*

| | Specific | Broad | Total |
|---|---|---|---|
| Failure | 82.08 (22.24) | 62.39 (21.82) | 72.75 (24.09) |
| Success | 25.59 (24.70) | 39.39 (21.48) | 32.19 (24.16) |
| Total | 54.26 (36.75) | 50.96 (24.47) | 52.69 (31.51) |

*Note.* Higher scores indicate greater perceived failure.

There was no main effect of framing condition on the framing manipulation check item, $F(1, 373) = 0.56$, $p = .45$. Both groups on average rated the article's described goals as closer to 'very real and concrete' than 'very abstract and distant' but were nevertheless close to the midpoint. Unexpectedly, there was a main effect of outcome, $F(1, 373) = 18.52$, $p < .001$, $\eta^2p = 0.05$. On average, people in the failure conditions rated the goals as more abstract and distant than those in the success conditions. There was no interaction. The evidence in relation to the failure and framing manipulations suggested that it is difficult to orthogonally manipulate outcomes without also manipulating abstraction.

**Table 21**

*Cell Means on Framing Manipulation Check.*

| | Specific | Broad | Total |
|---|---|---|---|
| Failure | 42.95 (28.96) | 48.00 (29.74) | 45.34 (29.36) |
| Success | 33.43 (28.40) | 32.71 (24.19) | 33.09 (26.41) |
| Total | 38.24 (29.01) | 40.40 (28.12) | 39.26 (28.57) |

*Note.* Higher scores indicate greater perceived abstractness.

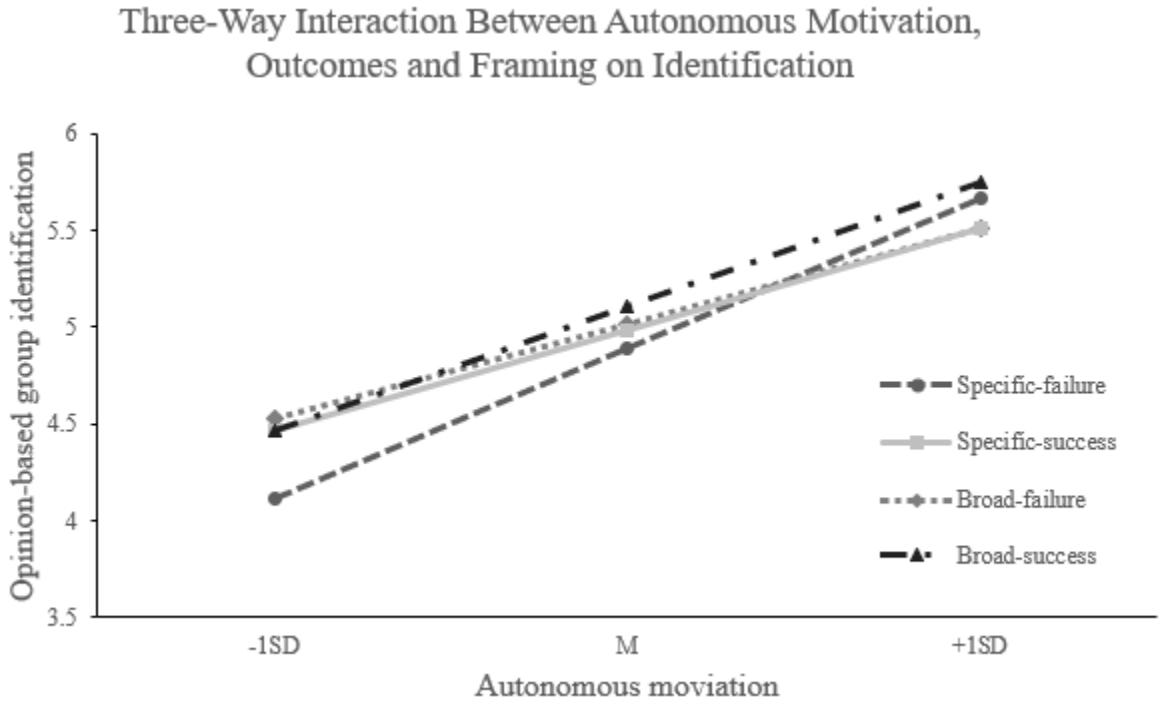
**Hypothesis testing**

We conducted Model 3 in PROCESS to test for a conditional interaction between autonomous motivation (IV), outcome (W), and framing (Z) on opinion-based group identification (DV) to test H1. The effects are displayed in Table 22 and simple slopes in Table 23. Autonomous motivation positively predicted identification, providing support for H1. There was no direct effect of autonomous motivation on action, contrary to H2 but consistent with a pattern of mediation. There was a three-way interaction such that when framing was specific, the effect of autonomous motivation on identification was stronger for those in the failure than the success condition (simple interaction $b = -.21$, $F(1, 367) = 4.42$, $p = .04$), providing support for

H3. There was no interaction between outcome and autonomous motivation on identification when framing was broad ($b$ = .12, $F$(1, 367) = 1.21, $p$ = .27), thus H4 was not supported. We concluded that the buffering effect of autonomous motivation on identification is stronger after experiencing a specific failure (see Figure 13).

**Figure 13**

*Three-Way Interaction Between Autonomous Motivation, Outcomes and Framing on Identification.*




Next, we tested for a conditional interaction between autonomous motivation (IV), outcome (W), and framing (Z) on collective action intentions. There were no significant main effects or interactions of autonomous motivation, outcome, or framing (Table 22).

Finally, we conducted Model 12 to test the overall pattern of the moderated moderated mediation model (H5) whereby the effect of autonomous motivation (IV) on action (DV) via

identification (M) is conditional upon failure (W) that is specific (Z). There was a positive indirect effect of autonomous motivation on action intentions, via identification, in all conditions (see Table 23). The pattern of results was consistent with the expected direction, as the indirect effect was stronger for those in the failure group than the success group when framing was specific, but stronger for those in the success group than the failure group when framing was broad. However, the index of moderated moderated mediation was not significant, and thus H5 was not supported.

As per our pre-registration, we conducted these three analyses twice; once as described above, and once with introjected and external regulation added as covariates. Key findings related to the hypotheses remained the same. However, unlike Study 4 and 5 there were significant effects of introjected and external regulation on the dependent variables (Table 22), so we reported the version with covariates to ensure our reported effects are specific to autonomous motivation.

**Table 22**

*Test of the Effects of Autonomous Motivation on Collective Action via Identification, Moderated by Outcome and Framing.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Autonomous motivation | 1.43 [0.72, 2.15]* | 0.36 | 0.26 [-0.66, 1.19] | 0.47 |
| Outcome (condition) | 2.96 [0.53, 5.38]* | 1.23 | -0.87 [-4.01, 2.27] | 1.60 |
| Framing (condition) | 3.11 [0.65, 5.56]* | 1.25 | -0.57 [-3.75, 2.61] | 1.62 |
| Outcome*Autonomous motivation | -0.55 [-1.00, -0.09]* | 0.23 | 0.06 [-0.52, 0.65] | 0.30 |
| Framing*Autonomous motivation | -0.57 [-1.03, -0.11]* | 0.23 | 0.08 [-0.52, 0.67] | 0.30 |
| Outcome*Framing | -1.75 [-3.32, -0.18]* | 0.80 | 0.36 [-1.68, 2.39] | 1.04 |
| Outcome*Framing*Autonomous motivation | 0.33 [0.04, 0.63]* | 0.15 | -0.01 [-0.39, 0.37] | 0.19 |
| Introjected regulation | 0.07 [0.00, 0.15] | 0.04 | 0.24 [0.14, 0.17]* | 0.05 |
| External regulation | 0.04 [-0.03, 0.10] | 0.03 | 0.08 [-0.01, 0.17] | 0.05 |
| Step 2 | | | | |
| Autonomous motivation | - | - | -0.65 [-1.47, 0.18] | 0.42 |
| Outcome (condition) | - | - | -2.74 [-5.50, 0.02] | 1.41 |
| Framing (condition) | - | - | -2.54 [-5.33, 0.26] | 1.42 |
| Identification | - | - | 0.63 [0.52, 0.75]* | 0.06 |
| Outcome*Autonomous motivation | - | - | 0.41 [-0.11, 0.93] | 0.26 |
| Framing*Autonomous motivation | - | - | 0.44 [-0.08, 0.96] | 0.27 |
| Outcome*Framing | - | - | 1.46 [-0.33, 3.25] | 0.91 |
| Outcome*Framing*Autonomous motivation | - | - | -0.22 [-0.56, 0.11] | 0.17 |
| Introjected regulation | - | - | 0.19 [0.10, 0.28]* | 0.04 |
| External regulation | - | - | 0.06 [-0.2, 0.14] | 0.04 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation = 0.21 [-0.08, 0.50], *SE* = 0.15. Index of moderated mediation (by outcome) in specific conditions = -0.14 [-0.28, 0.00], *SE* = 0.07. Index of moderated mediation (by outcome) in broad conditions = 0.08 [-0.17, 0.31], *SE* = 0.12.

**Table 23**

*Simple Slopes Analysis of the Effects of Autonomous Motivation on Outcomes by Condition.*

| | | Identification | | Indirect effect | |
|---|---|---|---|---|---|
| | | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Specific | Failure | 0.65 [0.50, 0.80]* | 0.08 | 0.41 [0.27, 0.54]* | 0.07 |
| | Success | 0.44 [0.28, 0.59]* | 0.08 | 0.28 [0.14, 0.41]* | 0.28 |
| Broad | Failure | 0.41 [0.25, 0.58]* | 0.08 | 0.26 [0.08, 0.46]* | 0.10 |
| | Success | 0.54 [0.37, 0.71]* | 0.09 | 0.34 [0.21, 0.48]* | 0.07 |

*Note*. * denotes effect is significant as confidence interval does not include zero.

## Discussion

Consistent with our hypotheses, autonomous motivation was a positive predictor of identification regardless of movement outcomes which, in turn, indirectly predicted action intentions. As hypothesised, and consistent with the findings of Study 4, the effect of autonomous motivation on identification was stronger after experiencing a movement failure in the context of a specific campaign, but not when the broader movement was failing. We did not find evidence of moderation when the movement goals were described as broad. Thus, autonomous motivation appears particularly important to sustain identification after experiencing a specific moment of movement failure. However, we did not find evidence to suggest that the indirect effect of autonomous motivation on action differed based on failure or framing.

One complexity with Study 6 was that the manipulation check suggested that there were no differences in abstraction of the movement goals between the two conditions. Moreover, unexpectedly, participants who read about a specific failure (obtaining a commitment to phaseout of fossil fuels at COP28) rated failure as higher than those who read about the climate movement failing more broadly. Similarly, those who read about a specific success rated success as higher

than those who read about the climate movement in general. It may be that people construe failure and success more intensely when it relates to a past campaign or event with a clearly determined outcome, compared to an ongoing movement, and this construal of outcomes may be the underlying mechanism by which framing impacts the effects of autonomous motivation on action. It is thus difficult to design an ecologically valid, orthogonal manipulation of outcomes and framing; this is a limitation of the present research.

Finally, post-hoc sensitivity analyses using WebPower suggested that the model was somewhat underpowered to detect moderation among the specific conditions ($\beta = .61$) and more so in the broad conditions ($\beta = .21$), but was adequately powered to detect the indirect effects ($\beta s > .99$).

## General Discussion

Social movements frequently face obstacles or setbacks, but little is known about what drives supporters to re-commit and intensify their efforts after setbacks or disengage from unattained goals. We examined the role of autonomous motivation as a factor which would become increasingly important to sustain opinion-based group identification and action in the face of failure. Table 24 presents a summary of the findings. In Study 4, in the context of the debate about marriage equality in Australia, there was some evidence that the effect of autonomous motivation on identification and future collective action intentions was significant only after experiencing a campaign failure but not a success. However, in Study 5, there was some evidence that supporters of various movements reported stronger identification and subsequent action intentions the more they were autonomously motivated, only when the movement was succeeding. In Study 6, we adjudicated these contradictory effects using an additional manipulation of framing of the movement as specific or broad. Study 6 revealed that

the effect of autonomous motivation on identification was stronger after experiencing a failure, but only when this failure was specific. Thus, the findings consistently show that autonomous motivation is a positive force for resilience and continued action, but its role in bolstering opinion-based group identification becomes more pronounced after experiencing a specific campaign failure (Study 4; Study 6). These findings are consistent with the DIME model, which argues that movement supporters respond more heterogeneously to failure than success (Lizzio-Wilson et al., 2024). However, this paper extends upon these findings to explain why some people maintain their support whilst others disengage (Becker & Tausch, 2014); we suggest that autonomous motivation is a key factor which serves to maintain commitment. There is also some exploratory evidence to suggest that when reflecting on the broader movement, autonomous motivation plays a greater role in encouraging action when the movement is perceived to be succeeding. However, these findings are less clear given that the simple interaction between success and failure outcomes and autonomous motivation in the broad conditions in Study 6 was not significant.

**Table 24**

*Summary of the Effects of Autonomous Motivation, by Condition, for Studies 4-6.*

| | Identification | | Indirect effect (action) | |
|---|---|---|---|---|
| | Failure | Success | Failure | Success |
| Study 4 (Specific) | ✓ | | ✓ | |
| Study 5 (Broad) | | ✓ | | ✓ |
| Study 6 (Specific) | ✓ ✓ | ✓ | ✓ | ✓ |
| Study 6 (Broad) | ✓ | ✓ | ✓ | ✓ |

*Note*. Check marks denote that simple slopes indicated a positive, significant effect. Double checks indicate stronger effects.

Autonomous motivation consistently predicted the strength of opinion-based group identification, but this effect was particularly pronounced after experiencing a specific failure. The role of autonomous motivation in sustaining identification after experiencing failure is consistent with findings that when the group is low-status, less strongly committed individuals are more likely to disengage while those who are committed to the group maintain identification regardless of the group's status (Blackwood & Louis, 2012). Although one might assume that failure of a broad movement would be associated with perceptions that the group is of a lower status, and subsequently greater temptation to disengage for weakly committed group members compared to highly committed members, our findings for Study 6 suggested that this was not the case. Participants rated failure as greater when it was specific to a past campaign than when it was ongoing. It may be that the effects of failure are felt more strongly in this context because it is acute and final – the failure has already occurred and the outcome cannot be changed – and thus autonomous motivation is needed to maintain identification. However, a broad movement

failure is less clear as the outcome is not yet determined. Future research could interrogate participants' reactions and examine qualitatively how failure or success is understood.

Autonomous motivation also indirectly sustained collective action via its effects on opinion-based group identification, consistent with the mediation identified in Chapter 3. These findings were also consistent with the literature on individual goals suggesting that autonomously motivated individuals are more likely to continue engaging in goal-striving behaviour after experiencing setbacks (e.g., Holding et al., 2017; Leduc-Cummings et al., 2022). However, in the context of collective action, these effects are primarily present when failure occurs in a specific event or campaign (Study 4) but not when the movement is failing overall (Study 5).

The research on individual goal pursuit suggests that when a goal is unattainable, autonomously motivated actors are particularly skilled at redirecting their efforts and re-engaging with a new goal that aligns with their identity and values (Smith & Ntoumanis, 2014), and are better at doing so the sooner they recognise that their original goal was unattainable (Ntoumanis et al., 2014). Thus, experiencing a specific failure drives autonomously motivated actors to select new goals and redirect their efforts to the next campaign while still pursuing the same broader aims. However, it is not possible to redirect in the same way when the broader movement is failing, and people may be less willing to recognise failure, consistent with our relative difficulty manipulating broad failure. Additionally, specific failure can be construed as a setback or obstacle, in the face of which autonomously motivated supporters are more willing to expend additional effort (Holding et al., 2017; Leduc-Cummings et al., 2022). In contrast, broader movement failure may not be perceived as an obstacle but rather an indication that the movement more generally and its tactics are ineffective and making no progress; additional effort is

therefore unlikely to overcome the movement's failures, and those who are most strongly committed to the cause may pursue other tactics (Lizzio-Wilson et al., 2024; Louis et al., 2020). Indeed, our supplementary analyses for Study 6 suggested that only when movement failure was broad, autonomous motivation predicted greater radical action intentions (Table S21).

One of the key limitations of the present research was that in all three studies, in order to examine the effects of motivation on collective action after the outcome, i.e., actual (Study 4) or manipulated (Studies 5-6) success/failure, we could only examine the effects on collective action intentions rather than behaviour. Although research finds that intentions and behaviour are highly correlated, including in the field of collective action (e.g., Fielding et al., 2008) some research on goal striving suggests that controlled motivation predicts intentions to expend effort after setbacks, but only autonomous motivation predicts behaviour (Sheldon & Elliot, 1998). Our study designs with only two timepoints were unable to test the effects of motivation on actual behaviour, but this may be an avenue for future research. However, a strength of the research is its ability to adjudicate causal effects due to the use of mixed methodology examining participant responses to a real example of failure with high ecological validity (Study 4) and experimental manipulations with higher internal validity (Study 5-6). This mixed design allows us to rule out the potential confounds present in Study 4 (e.g., our sampling of ideologically opposing groups) but also provides evidence that the effects are present in a real-world context, when failure has actually occurred. However, the effects of success and failure in the context of a broad movement are still unclear, as Study 5 was underpowered to detect moderation and the findings for broad success and failure were not significant in Study 6.

Research has now shown that autonomous motivation is a key predictor of sustained collective action over time (Chapter 3) and continued action after facing setbacks. Future

research should therefore investigate when and how autonomous motivation develops and explore strategies or messages that would help foster autonomous motives in supporters or potential supporters of a movement. We note, however, that continued goal pursuit in the face of repeated failures can have negative impacts on wellbeing, and may ultimately lead to burnout (Chen & Gorski, 2015) and political despair (Bird et al., 2024). Future research should examine whether autonomous motivation can play a role in alleviating burnout and promoting wellbeing (Sheldon et al., 2016) or, conversely, eliciting rumination and difficulty mentally disengaging from unattainable goals (Ntoumanis et al., 2014), and determine how autonomous motivation can best be utilised to promote both persistence and wellbeing.

## Conclusion

Setbacks and failures are common in social movements that are often faced with challenges from opposing groups, and require continued efforts and resilience from their supporters to be effective. It is therefore important to understand the factors that may sustain collective action after failure, when supporters may be tempted to disengage. Our findings suggest that the more supporters hold an internalised commitment to the cause and value the social movement outcomes, the more likely they are to continue engaging in collective action after experiencing failures. Autonomous motivation is a uniquely effective driver of action in comparison to other forms of motivation that can help to promote resilience and long-term commitment amongst supporters.

# Chapter 5

## General Discussion

Participation in movements seeking to achieve social change has surged in recent decades, but so too has speculation and criticism about the motives of those who engage in collective actions to support these movements. People who take action to support social movements may be accused of virtue-signalling (Westra, 2021), performative allyship (Kutlaca & Radke, 2023), or engaging in slacktivism (Skoric, 2012). The broad aim of this thesis was therefore to understand differences in the underlying motivations of people who engage in collective action, and the implications of these motives for the quantity, longevity, and persistence of these actions. In the chapters above, I provided evidence that, even within the context of a single cause, there are meaningful differences in the underlying motives of people who take action. I showed that autonomous motivation is a consistent positive force driving collective action. Importantly, I provided evidence showing that autonomous motivation is a key factor driving sustained action over time and when social movements face challenges, suggesting that it can be an important tool to aid in the success of these movements.

In Chapter 2, I showed that there are meaningful subgroups amongst supporters of global action to support refugees in the context of Syrian refugees (Study 1) and Ukrainian refugees (Study 2) who differ on the basis of their distinct motivations for engaging in collective action. Rather than considering associations between variables, I used a novel person-centred approach to identify different types of supporters based on clusters of motives. I found that small groups of supporters were disengaged or ambivalent, reporting low levels on all motivations to engage. Some supporters were purely autonomous, acting purely out of a desire to aid the cause. However, the majority of supporters were partially internalised, reporting both genuine concern

for the cause and introjected motives such as guilt. Finally, in some countries, there were small groups of supporters who were driven by mixed motives, including concern for the cause, introjected motives, and the desire for social approval. The findings consistently showed that autonomously motivated supporters identified most strongly with supporters of refugees and took the most action, suggesting that autonomous motivation is a key predictor of the quantity of collective action. However, inconsistent with some of the propositions within self-determination theory (e.g., Vansteenkiste et al., 2009), I showed that supporters high in mixed motives (i.e., autonomous and controlled motivation) were characterised by greater identification and action intentions than those driven by autonomous motives alone.

In Chapter 3, I provided evidence that autonomous motivation sustains collective action over a one-year period in the context of support for action to reduce global poverty. I used longitudinal methods to adjudicate the effects of motivation on identification and collective action over time and consider their implications for the longevity of supporters' involvement in the movement. Higher levels of autonomous motivation at the beginning of the study were associated with continued action one year later, while experiencing one's actions as controlled led to reduced identification and action. Furthermore, increases in autonomous motivation over time were associated with increases in identification and collective action. Thus, extending on the findings from Chapter 2, I provided further evidence to show that autonomous motivation is a positive force for collective action and can also promote longevity; however, unlike Chapter2, controlled motivation had negative effects as it undermined action over time.

Finally, in Chapter 4, I tested the effects of autonomous motivation on persistence after experiencing failure in the context of the movement to promote (or prevent) the legalisation of same-sex marriage in Australia (Study 4), and experimental contexts (Studies 5-6). In these

studies, motivation was measured prior to the manipulation of success and failure to determine how these experiences would impact subsequent intentions to engage in collective action. I tested whether the initial degree of autonomous motivation would help to sustain action in the face of setbacks. I replicated the findings of Chapter 3 by consistently showing that autonomous motivation was an important predictor of identification and action regardless of whether movements were perceived as failing or succeeding. In Study 6, I also examined whether the effects of autonomous motivation were conditional on whether success and failure were specific or broad. Effects here were more mixed but (cautiously) appeared to suggest that autonomous motivation was particularly important after experiencing a specific failure. There were no effects of controlled motivation in Studies 4 and 5, and minimal effects in Study 6. Thus, I have presented evidence that autonomous motivation, in particular, promotes quantity, longevity, and (more cautiously) persistence of collective action.

In the present chapter, I discuss the implications of these findings for collective action research, and our understanding of the factors that promote and sustain effective action. I also discuss the implications for self-determination theory and its application to the pursuit of collective goals. I revisit the theoretical integration and consider how the insights of self-determination theory can extend on the social identity approach to collective action, and vice versa. I discuss the practical implications of the present research and how they may be applicable to organisations seeking to mobilise supporters to take action for social change. Finally, I consider the strengths and limitations of the research, and present suggestions for future research to improve our understanding of the role of motivation in collective action, and further the practical applications of the research.

**Autonomous motivation predicts quantity, longevity and persistence of collective action**

Identification, group efficacy beliefs, anger at perceived injustice, and moral conviction are understood to be key motivators of collective action (Agostini & van Zomeren, 2021). While these are generally considered in terms of degree of strength of motivation, recently researchers have proposed that there may be different types of motives underlying collective action behaviour that vary not only in strength but in quality (Radke et al., 2020). The present research has considered the distinct motives of self-determination theory as drivers of collective action and found that the quality of motivation is important to understanding its impacts. The type of motivation is key to understanding its effects on action, and autonomous motivation is particularly important as it predicts greater quantity, longevity, and persistence of action.

Autonomous motivation has been little studied in the field of collective action, though it has been found to predict volunteering engagement (Geiser et al., 2014), voting (Koestner et al., 1996), environmental action (Sheldon et al., 2016), and charitable donations (Ferguson et al., 2015). The present research was the first to apply person-centred methods to understanding the impacts of the motives outlined in self-determination theory among people who take collective action. It is also the first to explore the effects of autonomous motivation on the longevity and persistence of action over time and through failure, both of which are key to the success of social change (e.g., Selvanathan & Jetten, 2020). Across the six studies presented, autonomous motivation was consistently shown to be a positive force associated with opinion-based group identification and greater engagement in collective action across a range of contexts; allyship with disadvantaged groups (Chapters 2-3), across several (albeit WEIRD and predominantly White) countries, and regardless of whether the movement is succeeding or failing (Chapter 4).

The research presented in this thesis can help to address several questions within the collective action literature. Firstly, debate about the motives of people who take collective actions is rife, and there is much speculation within public discourse (e.g., on social media) that people who participate in these actions do so for self-serving reasons to look or feel good rather than out of a genuine commitment to the cause. This debate has been particularly prominent in the context of online actions, which are relatively new and increasingly popular due to the ease and accessibility of taking such actions (Chon & Park, 2020). Thus, there is an emerging need to understand the motivators that drive collective action and whether they reflect meaningful engagement with the movement (e.g., Akfırat et al., 2021; Odağ et al., 2016; Thomas et al., 2015; Vaccari et al., 2015) or represent purely symbolic or performative actions that may be detrimental to further engagement (e.g., Kristofferson et al., 2014; Morozov, 2011; Skoric, 2012). The findings of this thesis provide further support to arguments made by Radke et al. (2020) that allies who are motivated by political identification and a genuine desire to improve conditions for the disadvantaged group will be most willing to exert effort in pursuit of these goals. It is therefore not the case that modern activists are 'slacktivists' or that all online action is 'virtue-signalling' or, conversely, that all action is a meaningful expression of support. Rather, subgroups of supporters vary in their underlying motives, and these motives are key to understanding their behaviours.

Secondly, recent literature acknowledges the importance of sustaining collective action without eliciting burnout and ill-being among committed supporters who may repeatedly experience setbacks and stagnation within their movement (Bird et al., 2024). The role of autonomous motivation may help to address this puzzle as autonomous motivation is associated with wellbeing (Weinstein & Ryan, 2010) and has been found to be a protective factor against

burnout in environmental activists (Sheldon et al., 2016). Thus, autonomous motivation may be a key factor to fostering sustained and committed action without compromising wellbeing, and this proposition should be explored in future research.

**Controlled motivation predicts quantity, but not longevity or persistence of collective action**

The literature on self-determination theory tends to show that, compared to the positive effects of autonomous motivation, controlled motivation has negative impacts on behaviour including weaker performance and persistence (Ryan & Deci, 2017c), and greater burnout (Sheldon et al., 2016). In my thesis, the empirical findings suggested that the role of controlled motivation as a driver of collective action was less consistent than that of autonomous motivation. In Chapter 2, I found positive effects of controlled motivation when paired with autonomous motivation. However, in Chapter 3, I found that controlled motivation undermined opinion-based group identification and collective action one year after the initial measurement. In Chapter 4, controlled motivation had no effects in Studies 4 and 5, and only very small effects in Study 6. I have therefore shown that controlled motivation can bolster the quantity of collective action, but it does not lead to longevity or persistence and can be detrimental to sustained action over time. Controlled motivation is comprised of both the motive to feel good (introjected regulation) and to look good (external regulation) in the context of factors that may drive engagement in collective action; the present research therefore shows that these motives are not as effective at driving meaningful, effective action as more genuine commitment to the cause, and can be detrimental to long-term participation (Chapter 3). These findings are also consistent with Radke et al. (2020) who suggest that allies driven by self-serving motives, rather than genuine political identification, are likely to take less effective action and stop participating when acting becomes costly.

The finding that controlled motives are associated with identification and collective action in the short-term (Chapter 2), but not in the long-term (Chapter 3) suggests that controlled motivation may be useful in some contexts. For example, in the immediate aftermath of a humanitarian crisis such as the floods in Türkiye in 2023, controlled motives may be highly effective in eliciting supportive actions and donations on a large scale. However, controlled motives are insufficient to sustain these efforts over time, which is particularly important for movements seeking structural changes that may only see incremental progress or face regular setbacks over decades of campaigning. Recent research has shown that collective action and sustained collective action are psychologically distinct and are driven by different underlying processes (Cohen-Eick et al., 2023). It may be that controlled motivation plays a different role in driving momentary and sustained collective action; further research is needed to fully understand its effects.

These findings shed further light on the discussion of performative allyship, slacktivism, and virtue-signalling. Previous research has shown that performative allyship can have detrimental effects on disadvantaged group members by decreasing their wellbeing (Estevan-Reina et al., 2021) and that engaging in pro-social actions like volunteering for self-serving reasons also predicts lower wellbeing (Stukas et al., 2016; Wu & Li, 2019). The present research contributes to this literature by showing that self-serving reasons for acting can also be detrimental because they can undermine the actor's identification and commitment to the cause and make them ultimately less likely to continue taking action (Chapter 3). Although the motives to feel good or look good can enhance the quantity of collective actions taken (Chapter 2), they are not as enduring as autonomous motivation and unlikely to be sufficient in the face of ongoing challenges that social movements may face.

**Application of self-determination theory to social identities and collective goals**

A notable aspect of my thesis is the integration of the insights of self-determination theory and the social identity approach. Self-determination theory provides a detailed analysis of distinct types of motives that drive behaviour (Ryan & Deci, 2000, 2017c). However, it does not include a framework for considering the impact of group processes, or account for the dynamic interactionism between group members and changing social context. Conversely, the social identity approach is a dynamic interactionist theory that considers how people are motivated to advance the position of their group by engaging in collective action (Tajfel & Turner, 1979). It is well-understood that the strength of social identification and commitment to the group predicts the extent to which people are willing to engage in collective action (Agostini & van Zomeren, 2021; Bliuc et al., 2007; Thomas et al., 2021). However, this approach does not consider that alongside the degree or strength of motivation, group members can also vary in the type or quality of their underlying motives for pursuing group goals.

Accordingly, in this thesis, I have proposed a relatively novel integration between self-determination theory and social identity theory (see also Amiot et al., 2020; Amiot et al., 2014; Kachanoff et al., 2019; Kachanoff et al., 2020; Thomas et al., 2017; Thomas, McGarty, et al., 2019) and suggested that motives to strive for collective goals can vary in type and quality, just as motives for personal goals vary in the extent to which they are experienced as internalised and personally important or controlled by external factors. I have consistently shown that autonomous motives and opinion-based group identification are related processes. People who experience a sense of internalised commitment to a social movement and its desired outcomes are more likely to identify as a member of a group characterised by its shared commitment to these outcomes (Bliuc et al., 2007). Conversely, people who consider an opinion-based or

politicised group to be a core part of their identity and sense of self are more likely to internalise the goals and values held by the group (Thomas, McGarty, et al., 2019). In turn, the strength of opinion-based group identification predicts engagement in collective action (Chapter 2), and also the longevity of action (Chapter 3) and persistence through successes and failures (Chapter 4).

However, the present research also suggests that additional nuance is required to understand the process of internalisation in the pursuit of collective goals relative to individual goals. Indeed, the tenets of self-determination theory cannot be straightforwardly applied to a collective context. Specifically, the social identity approach emphasises that group members communicate to form a shared understanding of their group's values and norms for action (Hogg & Reid, 2006). These insights may be key to understanding why some of my findings differed to those in other domains typically studied in the self-determination theory literature (e.g., work, sport, and education; Ryan & Deci, 2017c), particularly the effects of controlled motivation.

Firstly, the nature of controlled forms of motivation may be different in the context of collective action than its traditional conceptualisation. Factors such as peer approval and disapproval are usually considered to be external motivators of behaviour, as they represent rewards or punishments enforced and controlled by others rather than internal valuing of the behaviour (Deci et al., 1996). However, theorising in the self-determination literature suggests that people can internalise behaviours that they do not find inherently interesting when they are encouraged to engage in this behaviour by valued others, as this satisfies the need for relatedness (Ryan & Deci, 2000). It has been well-established in the literature on social identities that people's values and sense of 'who we are' is heavily influenced by the values and expectations communicated by members of their group (Postmes et al., 2005; Thomas, McGarty, & Mavor,

2016). Thus, it may be that in a collective context, seemingly external regulation could be a positive force for internalisation when it stems from other ingroup members.

Research shows that people who strongly identify with a group are more likely to internalise behaviours that are consistent with its group norms and expectations (Amiot et al., 2014). I argued in Chapter 2 that external regulation and autonomous motivation co-occurred in some groups of supporters because external motives to receive approval or avoid derision from others may be conflated with the desire to be a 'good' group member (see Stürmer & Simon, 2004; Stürmer et al., 2003) and thus may stem from greater commitment to the group, rather than a self-serving motive to seek rewards that is more consistent with virtue-signalling perspectives. Thus, there could be a distinction to be made between two types of control: control from within the ingroup (e.g., acting to signal one's commitment to the group and attain approval from ingroup members; see also Kachanoff et al., 2020) and control that is experienced as truly external (e.g., acting to avoid criticism, appear moral, or gain status on social media). These sources of external influence may differ in the extent to which they are experienced as controlling. Further research is needed to distinguish between these two motives and assess their impacts on identity and action.

Similarly, the role of group processes must be considered with regards to introjected regulation and its frequent associations with autonomous motivation in the present research. I showed that in the context of collective action, the motive to feel good about oneself tended to co-exist with the motive to do good, or a genuine, internalised commitment to the cause. As I suggested in Chapter 2, it is likely that these motives are highly correlated because the more people autonomously value taking collective action and believe that it is a necessary and important thing to do, the more likely they are to experience a sense of personal obligation to

engage in the behaviour and associated feelings of guilt or pride. Collective action differs to most contexts traditionally studied in the self-determination literature (e.g., sports, education, and work) because it has the potential to be highly moralised and may be enacted out of a sense of moral obligation or to satisfy one's conscience (Vilas & Sabucedo, 2012). Radke et al. (2020) consider moral values alongside political identification as a genuine, altruistic motive for engaging in allyship behaviour, contrasted with self- or ingroup-serving motives. Thus, the findings suggest that introjected regulation could be conceptualised as a byproduct of genuine investment in the cause and moral conviction rather than a self-serving motive to feel good about oneself (per the slacktivism perspective), which may explain why it had positive effects in some of my data (Studies 1-2). However, importantly, introjected regulation did not have the same consistent positive effects of autonomous motivation, particularly in Study 3 where it undermined social identification and collective action over time. Thus, further research is needed to understand the impacts of introjected regulation, particularly its long-term effects when in conjunction with autonomous motivation.

Finally, I found that the effects of autonomous motivation in the collective context were aligned with those found in the individual literature as it bolstered the quantity, longevity, and persistence of action (see Ryan & Deci, 2017c for an overview). However, the role of social identities in shaping, and being shaped by, autonomous motives was highly relevant to understanding these effects. The positive impacts of autonomous motivation on collective action were fully mediated by its effects on identification and its ability to sustain identification over time (Chapter 3) and through failure (Chapter 4). It is therefore important to consider that the psychological need of autonomy applies not only to behaviour, but also to social identification. When people feel that their identification with a social group is autonomous and freely chosen,

they are more likely to remain committed to the group and to enacting its values and goals (Amiot et al., 2010; Kachanoff et al., 2020). Thus, just as the quality of motivation for pursuing goals can vary, so too can the quality of motivation for identifying with a social group. Self-determination theory can therefore provide additional insights into the psychological process of identifying with a social group, which has key implications for the likelihood of engaging in group-enhancing behaviours.

**A note on the continuum of motivation**

My research can also help to adjudicate several debates currently unresolved within the literature on self-determination theory. Firstly, my findings consistently supported the assertion that introjected regulation may be a middle ground between external and autonomous motives and should not be considered as a form of controlled motivation (Howard et al., 2017; Howard et al., 2020). In all studies reported in this thesis, I found that introjected regulation correlated positively with autonomous motivation. Additionally, in Chapter 4, it correlated more weakly (Study 4) or not at all (Studies 5-6) with external regulation. Introjected regulation thus appears to be more strongly associated with internalised motivation, at least in the context of collective action, than with controlled motives wherein one does not truly value the outcome of the behaviour (see above). Relatedly, my findings did not support the assertion that motives on opposite ends of the self-determination continuum should crowd each other out (Gagné & Forest, 2008), as different types of motives frequently co-occurred within persons (Chapter 2). Thus, my findings are consistent with previous literature suggesting that people can be driven by multiple motives simultaneously, but remain ambiguous as to whether the addition of controlled motivation enhances (Levesque-Côté et al., 2021) or undermines (Geiser et al., 2014;

Vansteenkiste et al., 2009) the positive outcomes associated with autonomous motivation (see also Langan et al., 2016).

Furthermore, intrinsic motivation is traditionally considered as the 'purest' and most internalised form of motivation, as it reflects an inherent enjoyment and satisfaction in the activity (Deci & Ryan, 1985). However, in the present research, other types of autonomous motivation (integrated and identified regulation) were stronger predictors of collective action (Chapter 2). I argue that intrinsic motivation does not reflect a 'purer' motivation in this context as it could be likened to a 'warm glow' or personal sense of satisfaction rather than investment in the movement's goals (Van der Linden, 2018). Intrinsic motivation could therefore be considered as a self-serving motive to feel good rather than an expression of genuine commitment to the cause. It is thus unsurprising that integrated and identified forms of autonomous motivation were more strongly associated with action, and intrinsic motivation may be less relevant in this context (see also Koestner et al., 1996). Nevertheless, people are likely to experience collective action as more intrinsically satisfying if they are committed to the cause and care about its goals (Chapter 2), and this sense of interest and satisfaction may help to sustain positive outcomes such as wellbeing (Burton et al., 2006).

### Implications for practice

Non-governmental organisations, social movement leaders and activist groups use various tactics to recruit supporters and must consider the types of messages and strategies that are most effective at building a movement of committed supporters who are willing to invest effort to pursue the movement's goals. Global Citizen is a notable example of an organisation which takes a unique approach to incentivising collective action by 'gamifying' participation; members are awarded points for taking actions in support of the movement to combat global

poverty, and can use these points to gain access to rewards such as merchandise and concert tickets (Global Poverty Project, 2024). The present research cautions against this type of approach which emphasises external reasons for taking action and shifts the focus from the movement's values and desired outcomes (i.e., helping those affected by global poverty) to the attainment of material rewards. My findings suggest that controlled motivation can be helpful to the quantity (Chapter 2) but detrimental to the longevity (Chapter 3) of collective action. Thus, approaches that rely on external rewards to drive participation may be useful in contexts where rapid, wide-scale support is required – for instance, donations in the aftermath of a humanitarian crisis where emergency aid is needed – but are unlikely to sustain action over time and are less suited to building an enduring oppositional movement.

Similarly, attempts to motivate collective action by eliciting guilt or negative self-evaluations – for example, messaging that implies its audience should act to prove they are a good person, or implying that only a bad person would not act – could undermine supporters' feelings of autonomy, and subsequently their social identification with groups who seek change. I showed in Chapter 3 that when supporters were driven by introjected reasons, their opinion-based group identification as a supporter of the cause diminished over time. Thus, when people feel that their involvement in a cause is driven by a desire to meet controlling standards, they are less likely to internalise support for the movement as an aspect of their (social) identity, and less likely to engage in sustained action. Using guilt to encourage people to care about a cause may therefore ultimately fail to do so, and does not produce committed supporters who take frequent, sustained, and resilient action (see also Iyer et al., 2003 for a discussion of the pitfalls of guilt as a motivator of action).

I suggest that the most effective tactics to recruit committed, engaged supporters are those that elicit autonomous motivation, as I showed that autonomous motivation was a key predictor of quantity (Chapter 2), longevity (Chapter 3) and persistence of action after experiencing both successes and failures (Chapter 4). Autonomous motivation was also associated with the strength of opinion-based group identification as a supporter, and should therefore be encouraged by those seeking to recruit committed supporters. For instance, approaches that focus on the plight of disadvantaged groups may be particularly suitable, as they emphasise the desired outcomes of the collective action and thus may help to affirm the shared values of the group and communicate that 'we' care about this cause. Self-determination theory posits that behaviour becomes internalised when it satisfies the psychological need for competence, relatedness, and autonomy (Deci & Ryan, 2008; Kachanoff et al., 2020); thus, approaches that target the fulfilment of these key needs should be utilised to help promote autonomous motivation and, in turn, frequent and sustained action. Messages highlighting the potential impact of supporters' contributions may promote feelings of competence, while those that foster a sense of community and belonging may promote feelings of relatedness. Pressure and coercion should be avoided, as these may undermine feelings of autonomy. Further research is needed to explore the types of messaging which may help to promote autonomous motivation; however, I argue that supporters are most effective when they feel that they are acting because they want to, and least effective when they feel coerced.

### Strengths and limitations of the research program

Throughout the program of research I adopted varied statistical approaches suited to the specific research questions in each chapter. In Chapter 2, I used person-centred analyses to distinguish between discrete subgroups of supporters based on their underlying motives. This

approach allowed me to consider the distinct characteristics of groups of people, and examine the differences in the psychology and behaviours of different types of people, rather than considering linear relationships between variables (Thomas et al., 2024). In Chapter 3, I used longitudinal methods to examine how both initial levels of motivation and changes in motivation over time were associated with changes in identification and collective action. This approach allowed me to examine change over time naturalistically and establish temporal precedence of motivation before changes in identification and action. Nevertheless, this approach cannot definitively establish causality. In Chapter 4, I used data collected in a real-world context, providing greater external validity, as well as experimental methods possessing stronger internal validity, to compare the effects of autonomous motivation after failure and after success. However, the studies reported in this chapter were lacking sufficient power to detect effects. This was partly due to biased patterns of missing data where it was necessary to remove participants from the analysis who may have been less committed, as they did not take action (Study 4) or did not consistently indicate preference for the same cause (Study 5). Study 6 helped to overcome these limitations but was nevertheless slightly underpowered.

Additionally, I showed that the positive impacts of autonomous motivation were consistent for supporters of several different movements (supporting refugees, combating global poverty, supporting and opposing marriage equality, and combating climate change). These samples included supporters from several countries in Europe, the UK, the US, and Australia. While these varied samples provide some evidence that the effects apply in different social and cultural contexts, it is important to note that all participants were from WEIRD, predominantly White countries, and thus the research is lacking data from more diverse contexts. Future research should seek to address this limitation and investigate the prevalence and effects of

motivation on supporters of social movements in non-WEIRD countries. Furthermore, I provided some evidence to suggest that the positive effects of autonomous motivation are consistent for supporters with varied ideologies, as I accessed a sample of opponents of marriage equality (typically associated with political conservatism) in Study 4 and found similar effects. However, except for this small sample, the majority of participants whose data were reported in this thesis were supporters of progressive causes. Further research is needed to examine the role of motivation among supporters of reactionary or conservative movements.

There are several additional limitations to the overall program of research that should be noted here. It is difficult to measure motivation in any way other than self-report, but this may lead to social desirability biases particularly in response to questions regarding behaviours or characteristics that may be socially sanctioned or frowned upon (Krumpal, 2013). Participants may feel that they would be perceived as being immoral if they report engaging in humanitarian actions for non-altruistic reasons. It is therefore possible that participants over-reported autonomous motivation but under-reported controlled motivation for engaging in collective action. It is difficult to determine whether the present research accurately captured the prevalence of different types of motivation, particularly the finding in Chapter 2 that there were no supporters driven solely or mostly by controlled reasons.

Secondly, the measures of motivation used throughout these studies were loosely adapted from those used by Weinstein and Ryan (2010), or created for the specific studies reported in this thesis. However, these measures have not been validated, and all of the literature so far on self-determined motivations for engaging in political behaviour has used quantitative methods. There is currently no research where participants have described their own (autonomous and controlled) motivations for engaging in collective action, and I can only speculate on how

participants may have interpreted the measures. Future research could seek to create a measure of motivation that robustly captures the different forms of motivation, including the social elements of motivation (e.g., the pressure to conform to one's ingroup).

Finally, most of the studies reported in this thesis included measures of self-reported action, and in most cases, action intentions rather than past actions. The only studies to include behavioural measures were Studies 1 and 2, and I did not find any effects of motivation on behaviour in Study 2. Future research should therefore examine whether the effects of motivation on self-reported intentions translate into actual behaviour.

### Directions for future research

Throughout the present research, I have consistently shown that autonomous motivation is conducive to effective, sustained engagement in collective action. A critical next direction for future research is to address when and why autonomous motivation develops, and what practical strategies could be implemented that would help to promote autonomous motivation. Firstly, the three psychological needs identified within self-determination theory may be key to answering this question (Deci et al., 1996; Kachanoff et al., 2020). Self-determination theory posits that internalisation occurs when a behaviour satisfies the three key needs of competence, relatedness, and autonomy (Deci & Ryan, 2008); people are more likely to feel intrinsically motivated to participate in activities that they are good at, that provide a sense of belongingness or connection, and that they have chosen on their own terms. Social identification can provide feelings of relatedness and competence as people who identify as part of a group can feel connected to other group members and a greater sense of efficacy (i.e., strength in numbers) to achieve goals (Kachanoff et al., 2020). However, the internalisation of new group identities also relies on members' experiences within the group as being supportive of their autonomy (e.g., freedom to

make decisions, lack of pressure to conform) and fostering feelings of competence and belonging (Amiot et al., 2010). Future research should examine what aspects of individuals' experiences of interacting with other members of opinion-based groups and participating in collective action may inhibit or enhance their feelings of competence, relatedness, and autonomy, which may then promote (or prevent) internalisation of those identities (Thomas, McGarty, et al., 2019).

Another factor which may influence the degree of autonomous motivation to engage in collective action is people's perception of other group members' motives (Thomas et al., 2017). Group members take cues for what is normative and expected behaviour from others within their ingroup and form an understanding of what is important to 'us' and central to 'who we are' based on the values communicated and shared amongst other group members (Thomas, McGarty, et al., 2019). Thus, if other group members appear to be engaging in collective action for controlled reasons (i.e., they seem to be engaging in performative actions for self-serving reasons), they may fail to convey shared underlying values that promote autonomous motivation (e.g., that caring about achieving social change is part of 'who we are'). The prevalence of accusations of virtue-signalling and slacktivism suggests that suspicion of the motives of people who engage in collective action is rife; it is therefore a worthwhile avenue for future research to explore how these perceived motives may affect other supporters.

Finally, future research could adjudicate the potential negative impacts of controlled motivation more directly. I suggested that offering external rewards or eliciting guilt to motivate engagement in collective action may have negative impacts on people's feelings of autonomy and subsequently, the quality of their action. Future research could test these claims directly and investigate the impacts of offering rewards (e.g., points, merchandise) to determine whether this has detrimental effects in practice. Similarly, future research could examine the effects of social

media engagement – such as receiving likes and comments – on motivation and whether these may crowd out autonomous motives or, conversely, may elicit feelings of relatedness and competence that promote internalisation.

## Conclusion

More and more people are becoming mobilised to engage in fights for social justice. As the fight for climate justice becomes more pressing and the rights of disadvantaged groups are increasingly under threat (e.g., transgender rights, right to abortion in the US), it is important for those who are newly engaging in collective action to be supported and encouraged to become committed and resilient activists. As famous anthropologist Margaret Mead said, 'all social movements are founded by, guided by, motivated, and seen through by the passion of individuals.' The findings of this thesis have highlighted the importance of fostering this passion, and it is my hope that my research will ultimately help those who seek to encourage and nurture the passion to fight for equality and justice.

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# Appendix A

## Chapter 2 – Supplementary Materials

### Predictors of Profile Membership

If there are qualitative differences in the underlying pattern of motivation in support for refugees, it stands to reason that such motivations would also be shaped by the emotional responses that people have to the disadvantage experienced by refugees. Emotional reactions to injustice have been shown to be precursors to collective action (Thomas et al., 2009; van Zomeren et al., 2008). We first examine whether different emotions are associated with different motives for engaging in collective action. Sympathy is an other-focussed emotion as the emphasis is on the experience of the disadvantaged outgroup (Harth et al., 2008). Similarly, anger is other-focussed as it targets an offending outgroup or perpetrator who is blamed for causing harm (though in some cases anger can be self-focussed if it is targeted at the ingroup; Leach et al., 2006). In contrast, guilt is self-focussed as the emphasis is on the relative advantage of the ingroup, and how the actions of the ingroup have inflicted harm (Harth et al., 2008). Other-focussed emotions of sympathy and anger are characterised by a concern for the wellbeing of the disadvantaged group (Thomas et al., 2009) and thus may be associated with autonomous motivation. In contrast, guilt centres one's own experience rather than that of the disadvantaged group, and may lead to a motive to alleviate one's own discomfort, and thus may be associated with controlled motivation. Sympathy (Harth et al., 2008) and anger (Leach et al., 2006) have been found to be greater predictors of action in support of disadvantaged groups when compared with guilt.

## Study 1

We expected that profiles higher in autonomous motivation but lower in controlled motivation would be predicted by higher levels of other-focused emotions including sympathy an outrage. We expected that profiles higher in controlled motivation but lower in autonomous motivation would be predicted by higher levels of guilt. We did not have specific predictions about the role of hope, but included it as a predictor in the analysis as it was included in our measures and has been implicated as a predictor of collective action engagement (e.g., Greenaway et al., 2016; Wlodarczyk et al., 2017).

### *Measures*

*Emotions.* Participants were asked to what extend they felt sympathetic, compassionate, guilty, responsible, angry, outraged, hope, and optimism when considering the plight of Syrian refugees. Each pair of items was averaged to create composite scores of sympathy, guilt, outrage, and hope.

## Results

We used the AUXILIARY option in Mplus to examine the predictors of profile membership. We entered four emotions (guilt, outrage, sympathy, and hope) as predictors of the profiles. Table S1 displays how each emotion predicts likelihood of an individual belonging to each of the five profiles, compared to other profiles.

Disengaged supporters were lower in sympathy and hope relative to most other profiles (see Table S1), consistent with predictions for sympathy, and suggesting that lower hope is associated with a lack of motivation. Ambivalent supporters were lower in sympathy relative to purely autonomous, partially internalised, and mixed motives supporters, and higher in hope relative to disengaged supporters. Purely autonomous supporters were higher in sympathy than

disengaged or ambivalent supporters, higher in outrage than disengaged supporters, and lower in guilt than partially internalised and mixed motives supporters. Partially internalised supporters were higher in sympathy and guilt than ambivalent or purely autonomous supporters; thus, the hypothesis that higher controlled motivation will be associated with guilt was supported, but higher controlled motivation was not associated with lower sympathy. Further, contrary to predictions, guilt was not associated with lower autonomous motivation. Mixed motives supporters were higher in hope than partially internalised supporters and reported greater guilt and hope relative to purely autonomous supporters. They were also higher in outrage compared to all except the purely autonomous group. Thus, the hypothesis that profiles higher in autonomous motivation but lower in controlled motivation would be predicted by higher levels of outrage was not supported.

**Table S1.**

*Study 1 Profile Predictors: Likelihood of being in the first listed profile relative to the second.*

| | Ambivalent vs Disengaged | | Purely autonomous vs Disengaged | | Partially internalised vs Disengaged | | Mixed motives vs Disengaged | | Purely autonomous vs Ambivalent | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio |
| Sympathy | -0.14 (.16) | 0.873 | 0.59 (.16) *** | 1.810 | 0.88 (.17)*** | 2.415 | 0.66 (.29)* | 1.929 | 0.73 (.16)*** | 2.073 |
| Guilt | 0.02 (.15) | 1.023 | 0.06 (.13) | 1.063 | 0.37 (.13)* | 1.447 | 0.35 (.16)* | 1.421 | 0.04 (.10) | 1.040 |
| Outrage | 0.02 (.15) | 1.125 | 0.13 (.09) | 1.142 | 0.21 (.09)* | 1.236 | 0.30 (.12)* | 1.355 | 0.02 (.08) | 1.015 |
| Hope | 0.29 (.14)* | 1.339 | 0.27 (.13)* | 1.310 | 0.34 (.13)** | 1.404 | 0.58 (.15)*** | 1.781 | -0.02 (.10) | 0.978 |
| | Partially internalised vs Ambivalent | | Mixed motives vs Ambivalent | | Partially internalised vs Purely autonomous | | Mixed motives vs Purely autonomous | | Mixed motives vs Partially internalised | |
| | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio |
| Sympathy | 1.02 (.17)*** | 2.766 | 0.79 (.29)** | 2.209 | 0.29 (.14)* | 1.334 | 0.06 (.26) | 1.065 | -0.23 (.26) | 0.799 |
| Guilt | 0.35 (.10)*** | 1.415 | 0.33 (.13)* | 1.389 | 0.31 (.07)*** | 1.361 | 0.29 (.11)** | 1.336 | -0.02 (.10) | 0.982 |
| Outrage | 0.09 (.08) | 1.099 | 0.19 (.12) | 1.205 | 0.08 (.06) | 1.082 | 0.17 (.10) | 1.187 | 0.09 (.10) | 1.097 |
| Hope | 0.05 (.10) | 1.048 | 0.29 (.14)* | 1.330 | 0.07 (.07) | 1.071 | 0.31 (.11)** | 1.359 | 0.24 (.10)* | 1.269 |

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

## Study 2

We added measures of group efficacy and moral conviction, highlighted in Agostini and van Zomeren (2021)'s extension of the social identity model of collective action (SIMCA) as key predictors of collective action, in addition to emotional pathways (e.g., anger). We expected that higher moral conviction would predict membership of profiles higher in autonomous motivation, as moral convictions represent strongly held personal values and ideals and thus lead to autonomous, internalised motivation to act in accordance with one's moral stance (Skitka, 2010). We expected that higher efficacy would also predict membership of profiles higher in autonomous motivation, as self-determination theory posits that people are more likely to participate in and internalise (i.e., experience as autonomous) activities in which they expect to be competent (Deci & Ryan, 1985).

*Measures*

*Emotions.* The same measures of sympathy, guilt, outrage, and hope were used, with an additional two-item measure of despair: 'Considering the plight of Ukrainian refugees, I feel: Despair/Depressed'.

*Group efficacy.* Two items measured group efficacy and were averaged to create a single score: 'Together we can improve the outcomes for Ukrainian refugees' and 'Together we can make a positive difference for Ukrainian refugees.'

*Moral conviction*. Three items assessed participants' moral conviction regarding their stance on Ukrainian refugees, e.g., 'My feelings about Ukrainian refugees are a reflection of my core moral beliefs and convictions.' These three items were averaged to create a composite score.

## Results

*Romania*

Table S2 displays profile predictors for the Romanian data. Disengaged supporters had lower levels of efficacy, guilt, and moral conviction than most other profiles. Ambivalent supporters were lower in guilt and moral conviction than partially internalised and mixed motives supporters, but higher in efficacy compared to the disengaged group. Partially internalised supporters were higher in efficacy than all other profiles, and higher in sympathy, guilt, and moral conviction relative to disengaged or ambivalent supporters. Membership of the mixed motives profile was predicted by higher guilt and moral conviction compared to all other profiles, higher hope than the disengaged group, and higher despair than the ambivalent group. Membership was also predicted by lower levels of efficacy than partially internalised supporters. Further, contrary to Study 1, outrage did not emerge as a significant predictor of any profile memberships.

*Hungary*

Table S3 displays profile predictors for Hungary. Membership of the disengaged profile was predicted by lower efficacy and moral conviction relative to the other profiles. Membership of the ambivalent group was predicted by lower efficacy and moral conviction than partially ambivalent and partially internalised profiles, but higher moral conviction than the disengaged group. Ambivalent supporters had higher levels of despair relative to the disengaged supporters. Partially ambivalent supporters had higher sympathy, efficacy and moral conviction than ambivalent supporters, but lower sympathy and moral conviction than partially internalised supporters. Membership of the partially internalised group was predicted by higher sympathy and moral conviction than all other profiles, and higher efficacy than all but partially ambivalent

supporters. Similar to the Romanian sample, outrage did not emerge as a significant predictor of any profile memberships. However, in the Hungarian sample, guilt also did not predict any profiles.

*UK*

Table S4 displays profile predictors for the UK. Disengaged supporters were lower in outrage and hope than all other profiles. Membership of the ambivalent group was predicted by higher efficacy, outrage and hope than disengaged supporters, and lower sympathy than purely autonomous supporters. Membership of the partially internalised profile was predicted by higher levels of guilt than purely autonomous supporters. There were no significant predictors separating ambivalent and partially internalised supporters. In the UK sample, moral conviction and despair did not predict any profile memberships.

## Discussion

We found somewhat inconsistent effects for how profile membership was predicted by emotions. Outrage, a well-established predictor of action (van Zomeren, 2021; van Zomeren et al., 2008), had no effect on profile membership in Romania or Hungary. In the UK, membership of the disengaged group was predicted by lower levels of outrage compared to all other groups, suggesting that the least outraged supporters were the least motivated to take action. There were more consistent effects for sympathy, which predicted membership of the partially internalised group over most other groups (except purely autonomous and mixed motives) in all three nations. Thus, we only partially replicated the finding that more highly autonomous profiles were characterised by other-focussed emotions, demonstrating greater concern for the plight of the disadvantaged group. We also found that higher levels of guilt predicted membership of profiles

more strongly characterised by controlled motivation in Romania and the UK, but not in Hungary.

Efficacy also tended to predict membership of more highly autonomous (and thus more active) groups over less autonomous groups, but some effects were non-significant. However, the mixed motives group in Romania, despite being the most committed to taking action, was predicted by lower efficacy than the partially internalised group and was no different to the ambivalent and disengaged groups. It may be that the presence of external regulation as a motivator acted as a buffer against the demotivating effects of lower group efficacy, as external goals – such as impression management – provide an incentive to continue acting even when there is low efficacy to achieve the group goal (i.e., improving the plight of Ukrainian refugees). Moral conviction consistently predicted membership of more highly autonomous groups in Hungary and Romania – indeed, those who value the cause and feel that it is personally important should hold stronger moral convictions – but it had no effects in the UK.

**Table S2.**

*Study 2 (Romania) Profile Predictors: Likelihood of being in the first listed profile relative to the second.*

| | Ambivalent vs Disengaged | | Partially internalised vs Disengaged | | Mixed motives vs Disengaged | | Partially internalised vs Ambivalent | | Mixed motives vs Ambivalent | | Mixed motives vs Partially internalised | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio |
| Sympathy | 0.18 | 1.198 | 0.61 | 1.847 | 0.30 | 1.355 | 0.43 | 1.542 | 0.12 | 1.132 | -0.31 | 0.734 |
| | (.19) | | (.24)** | | (.35) | | (.16)** | | (.30) | | (.29) | |
| Guilt | 0.47 | 1.598 | 0.78 | 2.189 | 1.57 | 4.821 | 0.32 | 1.370 | 1.10 | 3.017 | 0.79 | 2.203 |
| | (.25) | | (.27)** | | (.30)*** | | (.11)** | | (.18)*** | | (.15)*** | |
| Outrage | 0.05 | 1.053 | -0.01 | 0.991 | -0.08 | 0.928 | -0.06 | 0.941 | -0.13 | 0.881 | -0.07 | 0.936 |
| | (.13) | | (.14) | | (.17) | | (.07) | | (.12) | | (.11) | |
| Hope | 0.28 | 1.324 | 0.36 | 1.426 | 0.81 | 2.239 | 0.07 | 1.077 | 0.53 | 1.692 | 0.45 | 1.571 |
| | (.17) | | (.18) | | (.37)* | | (.09) | | (.33) | | (.32) | |
| Despair | 0.09 | 1.090 | 0.26 | 1.292 | 0.50 | 1.648 | 0.17 | 1.186 | 0.41 | 1.512 | 0.24 | 1.275 |
| | (.20) | | (.21) | | (.27) | | (.09) | | (.19)* | | (.17) | |
| Efficacy | 0.46 | 1.580 | 1.30 | 3.661 | 0.62 | 1.867 | 0.84 | 2.318 | 0.17 | 1.182 | -0.67 | 0.510 |
| | (.21)* | | (.25)*** | | (.36) | | (.16)*** | | (.30) | | (.29)* | |
| Moral conviction | 0.18 | 1.191 | 0.89 | 2.430 | 1.62 | 5.054 | 0.71 | 2.040 | 1.45 | 4.242 | 0.73 | 2.079 |
| | (.19) | | (.23)*** | | (.35)*** | | (.16)*** | | (.31)*** | | (.28)** | |

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

**Table S3.**

*Study 2 (Hungary) Profile Predictors: Likelihood of being in the first listed profile relative to the second.*

| | Ambivalent vs Disengaged | | Partially ambivalent vs Disengaged | | Partially internalised vs Disengaged | | Partially ambivalent vs Ambivalent | | Partially internalised vs Ambivalent | | Partially internalised vs Partially ambivalent | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio |
| Sympathy | -0.33 (.25) | 0.718 | 0.16 (.26) | 1.169 | 1.06 (.38)** | 2.887 | 0.49 (.15)** | 1.629 | 1.39 (.31)*** | 4.022 | 0.90 (.29)** | 2.469 |
| Guilt | -0.002 (.21) | 0.998 | 0.05 (.21) | 1.048 | 0.22 (.25) | 1.250 | 0.05 (.12) | 1.051 | 0.23 (.17) | 1.253 | 0.18 (.13) | 1.192 |
| Outrage | 0.22 (.19) | 1.248 | 0.22 (.20) | 1.241 | 0.27 (.23) | 1.315 | -0.006 (.11) | 0.994 | 0.05 (.16) | 1.054 | 0.06 (.12) | 1.059 |
| Hope | 0.29 (.21) | 1.337 | 0.34 (.21) | 1.399 | 0.51 (.23)* | 1.663 | 0.05 (.10) | 1.046 | 0.22 (.13) | 1.244 | 0.17 (.11) | 1.189 |
| Despair | 0.46 (.22)* | 1.586 | 0.40 (.23) | 1.485 | 0.26 (.25) | 1.301 | -0.07 (.15) | 0.936 | -0.20 (.18) | 0.820 | -0.13 (.12) | 0.876 |
| Efficacy | 0.28 (.25) | 1.324 | 0.72 (.28)* | 2.045 | 0.96 (.35)** | 2.598 | 0.44 (.15)** | 1.545 | 0.67 (.25)** | 1.963 | 0.24 (.27) | 1.271 |
| Moral conviction | 0.55 (.21)** | 1.738 | 1.02 (.24)*** | 2.760 | 2.39 (.35)*** | 10.869 | 0.46 (.16)** | 1.588 | 1.83 (.30)*** | 6.252 | 1.37 (.27)*** | 3.937 |

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

**Table S4.**

*Study 2 (UK) Profile Predictors: Likelihood of being in the first listed profile relative to the second.*

| | Ambivalent vs Disengaged | | Partially internalised vs Disengaged | | Purely autonomous vs Disengaged | | Purely autonomous vs Ambivalent | | Partially internalised vs Ambivalent | | Purely autonomous vs Partially internalised | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio | Coeff. *(SE)* | Odds Ratio |
| Sympathy | 0.27 (.46) | 1.306 | 1.56 (.75)* | 4.771 | 1.45 (.65)* | 4.248 | 1.18 (.48)* | 3.252 | 1.30 (.67) | 3.652 | -0.12 (.50) | 0.890 |
| Guilt | 0.45 (.34) | 1.570 | 0.55 (.36) | 1.729 | 0.19 (.38) | 1.206 | -0.26 (.18) | 0.768 | 0.10 (.15) | 1.101 | -0.36 (.17)* | 0.697 |
| Outrage | 0.51 (.24)* | 1.668 | 0.75 (.27)** | 2.113 | 0.77 (.31)* | 2.161 | 0.26 (.21) | 1.296 | 0.24 (.14) | 1.267 | 0.02 (.18) | 1.023 |
| Hope | 1.23 (.43)** | 3.404 | 1.64 (.48)** | 5.168 | 1.34 (.49)** | 3.829 | 0.12 (.26) | 1.125 | 0.42 (.25) | 1.518 | -0.30 (.20) | 0.741 |
| Despair | 0.24 (.30) | 1.269 | 0.16 (.35) | 1.169 | 0.07 (.36) | 1.069 | -0.17 (.25) | 0.842 | -0.08 (.23) | 0.922 | -0.09 (.18) | 0.914 |
| Efficacy | 0.92 (.44)* | 2.511 | 1.43 (.80) | 4.185 | 1.82 (.65)** | 6.181 | 0.90 (.53) | 2.462 | 0.51 (.72) | 1.667 | 0.39 (.49) | 1.477 |
| Moral conviction | 0.09 (.30) | 1.098 | 0.47 (.77) | 1.592 | 0.03 (.54) | 1.028 | -0.07 (.50) | 0.937 | 0.37 (.76) | 1.450 | -0.44 (.40) | 0.646 |

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

## Specific Actions as Outcomes of Profile Membership

As a supplementary analysis, we examined whether there were any differences in how the profiles predicted intentions and self-reported behaviour for specific collective actions (Table S5). These results mostly followed the overall pattern of the composite measures of intentions and behaviours, except that partially internalised supporters reported significantly higher intentions to volunteer than mixed motives supporters, and there was no difference between mixed motives supporters and purely autonomous supporters on intentions to volunteer or post on social media. For self-reported behaviour, only partially internalised supporters donated significantly more than other groups. Partially internalised supporters also volunteered more than purely autonomous and ambiguous supporters, but no other groups were significantly different from each other.

**Table S5.**

*Study 1: Individual Actions (Intentions and Past Action) as Outcomes of Profile Membership.*

| Intentions *M (SE)*<br>Past action % | Disengaged | Ambivalent | Purely internalised | Partially internalised | Mixed motives |
|---|---|---|---|---|---|
| Sign petition | 3.92 (.21)$_{a}$ | 4.32 (.17)$_{a}$ | 5.28 (.09)$_{b}$ | 5.90 (.06)$_{c}$ | 5.81 (.16)$_{c}$ |
| | 14.2%$_{a}$ | 10.9%$_{a}$ | 28.5%$_{b}$ | 42.0%$_{c}$ | 49.5%$_{c}$ |
| Donate | 3.55 (.21)$_{a}$ | 3.98 (.17)$_{ab}$ | 4.33 (.10)$_{b}$ | 5.09 (.08)$_{c}$ | 5.02 (.19)$_{c}$ |
| | 7.8%$_{abc}$ | 9.4%$_{adef}$ | 16.6%$_{bcdf}$ | 25.2%$_{g}$ | 22.5%$_{cefg}$ |
| Post on social media | 2.91 (.23)$_{a}$ | 3.06 (.19)$_{a}$ | 4.19 (.12)$_{b}$ | 4.71 (.10)$_{c}$ | 4.68 (.24)$_{bc}$ |
| | 19.2%$_{ab}$ | 7.7%$_{a}$ | 36.6%$_{c}$ | 46.5%$_{d}$ | 40.7%$_{bcd}$ |
| Volunteer | 4.12 (.22)$_{ab}$ | 3.87 (.17)$_{a}$ | 4.82 (.09)$_{c}$ | 5.16 (.08)$_{d}$ | 4.65 (.19)$_{bc}$ |
| | 15.3%$_{abcd}$ | 10.1%$_{aef}$ | 16.1%$_{beg}$ | 24.3%$_{ch}$ | 13.4%$_{dfgh}$ |

Subscripts denote where profiles are significantly different at $p < .05$.

We repeated the same analysis for Study 2. In Romania (Table S6), the same ranking we observed for composite scores (disengaged supporters scoring lowest, and mixed motives scoring highest) was observed for almost all individual actions, though for some cases adjacently ranked profiles were not significantly different from each other. However, partially internalised supporters intended to talk to friends and family more than mixed motives supporters, and donated more. In Hungary (Table S7), the ranking of profiles was also consistent between composite scores and all individual actions (with some non-significant differences), except for self-reported volunteering, where disengaged supporters volunteered more than ambivalent supporters. In the UK (Table S8), many of the differences between profiles for specific actions were not significant, but there were no clear and significant deviations from the overall pattern.

**Table S6.**

*Study 2 (Romania): Individual Actions (Intentions and Past Action) as Outcomes of Profile Membership.*

| Intentions *M (SE)* Past action % | Disengaged | Ambivalent | Partially internalised | Mixed motives |
|---|---|---|---|---|
| Post on social media | 1.80 (.16)$_a$ 0.0%$_a$ | 3.20 (.11)$_b$ 19.1%$_b$ | 4.35 (.09)$_c$ 53.9%$_c$ | 5.48 (.18)$_d$ 54.0%$_c$ |
| Carry/display item | 1.67 (.14)$_a$ 2.2%$_a$ | 2.91 (.10)$_b$ 9.6%$_b$ | 3.98 (.09)$_c$ 29.9%$_c$ | 5.48 (.17)$_d$ 48.8%$_d$ |
| Social media profile | 1.77 (.15)$_a$ 0.0%$_a$ | 2.88 (.10)$_b$ 13.5%$_b$ | 3.84 (.09)$_c$ 40.6%$_c$ | 5.51 (.18)$_d$ 51.4%$_c$ |
| Sign petition | 2.48 (.23)$_a$ 36.8%$_a$ | 4.36 (.11)$_b$ 78.4%$_b$ | 5.89 (.06)$_c$ 97.7%$_c$ | 5.66 (.16)$_c$ 90.0%$_c$ |
| Talk to friends/family | 2.86 (.24)$_a$ 2.2%$_a$ | 4.69 (.10)$_b$ 21.7%$_b$ | 6.17 (.05)$_c$ 54.0%$_c$ | 5.90 (.13)$_d$ 57.1%$_c$ |
| Email to politician | 1.61 (.14)$_a$ 0.0%$_a$ | 2.58 (.10)$_b$ 2.3%$_b$ | 3.20 (.09)$_c$ 2.3%$_b$ | 5.15 (.18)$_d$ 16.0%$_c$ |
| Donate | 2.10 (.18)$_a$ 7.8%$_a$ | 4.23 (.10)$_b$ 30.0%$_b$ | 5.76 (.06)$_c$ 66.5%$_c$ | 5.83 (.14)$_c$ 47.8%$_d$ |
| Attend rally | 1.86 (.17)$_a$ 0.0%$_a$ | 3.30 (.11)$_b$ 3.4%$_b$ | 4.78 (.08)$_c$ 13.7%$_c$ | 5.73 (.16)$_d$ 40.6%$_d$ |
| Volunteer | 2.10 (.19)$_a$ 4.5%$_a$ | 3.95 (.11)$_b$ 13.9%$_b$ | 5.77 (.06)$_c$ 49.9%$_c$ | 6.17 (.12)$_d$ 54.1%$_c$ |
| Offer a place to stay | 1.85 (.17)$_a$ 0.0%$_a$ | 3.18 (.11)$_b$ 5.8%$_b$ | 4.31 (.09)$_c$ 13.9%$_c$ | 5.79 (.17)$_d$ 19.6%$_c$ |

Subscripts denote where profiles are significantly different at $p < .05$.

**Table S7.**

*Study 2 (Hungary): Individual Actions (Intentions and Past Action) as Outcomes of Profile Membership.*

| Intentions *M (SE)* Past action % | Disengaged | Ambivalent | Ambivalent-Partially internalised | Partially internalised |
|---|---|---|---|---|
| Post on social media | 1.57 (.15)$_a$ 0.0%$_a$ | 2.48 (.14)$_b$ 5.1%$_b$ | 3.03 (.10)$_c$ 18.3%$_b$ | 4.40 (.12)$_d$ 54.1%$_c$ |
| Carry/display item | 1.60 (.15)$_a$ 2.9%$_a$ | 2.50 (.13)$_b$ 5.0%$_a$ | 2.99 (.09)$_c$ 14.5%$_b$ | 4.07 (.11)$_d$ 53.5%$_c$ |
| Social media profile | 1.72 (.17)$_a$ 5.1%$_{ab}$ | 2.40 (.13)$_b$ 2.3%$_a$ | 2.93 (.10)$_c$ 15.7%$_b$ | 4.27 (.12)$_d$ 42.5%$_c$ |
| Sign petition | 2.19 (.25)$_a$ 66.5%$_a$ | 3.50 (.17)$_b$ 76.4%$_a$ | 4.44 (.10)$_c$ 95.0%$_b$ | 5.50 (.09)$_d$ 98.0%$_b$ |
| Talk to friends/family | 3.73 (.30)$_a$ 6.7%$_a$ | 4.56 (.13)$_b$ 11.9%$_a$ | 5.46 (.07)$_c$ 22.0%$_b$ | 6.64 (.04)$_d$ 42.5%$_c$ |
| Email to politician | 1.42 (.12)$_a$ 0.0%$_{ab}$ | 2.14 (.12)$_b$ 2.5%$_{acd}$ | 2.42 (.09)$_b$ 0.6%$_{bc}$ | 3.13 (.12)$_c$ 5.9%$_d$ |
| Donate | 2.03 (.20)$_a$ 4.0%$_a$ | 3.30 (.14)$_b$ 9.7%$_a$ | 4.01 (.09)$_c$ 26.4%$_b$ | 5.50 (.09)$_d$ 62.1%$_c$ |
| Attend rally | 1.62 (.16)$_a$ 0.0%$_a$ | 2.79 (.15)$_b$ 3.4%$_b$ | 3.27 (.10)$_c$ 9.5%$_c$ | 4.49 (.11)$_d$ 21.0%$_d$ |
| Volunteer | 2.01 (.20)$_a$ 13.7%$_a$ | 3.30 (.13)$_b$ 1.5%$_b$ | 4.41 (.08)$_c$ 26.3%$_a$ | 5.89 (.08)$_d$ 57.1%$_c$ |
| Offer a place to stay | 1.43 (.12)$_a$ 2.7%$_{ab}$ | 2.34 (.12)$_b$ 2.2%$_{ac}$ | 2.56 (.09)$_b$ 4.4%$_{bc}$ | 3.63 (.12)$_c$ 23.0%$_d$ |

Subscripts denote where profiles are significantly different at $p < .05$.

**Table S8.**

*Study 2 (UK): Individual Actions (Intentions and Past Action) as Outcomes of Profile Membership.*

| Intentions *M (SE)*<br>Past action % | Disengaged | Ambivalent | Purely internalised | Partially internalised |
|---|---|---|---|---|
| Post on social media | 1.50 (.17)$_a$<br>9.6%$_a$ | 2.68 (.12)$_b$<br>11.5%$_a$ | 3.43 (.26)$_c$<br>39.4%$_b$ | 4.07 (.12)$_d$<br>50.2%$_b$ |
| Carry/display item | 1.52 (.16)$_a$<br>4.1%$_a$ | 3.03 (.12)$_b$<br>11.9%$_{ab}$ | 3.17 (.23)$_b$<br>23.5%$_b$ | 4.32 (.11)$_c$<br>44.8%$_c$ |
| Social media profile | 1.74 (.20)$_a$<br>0.0%$_a$ | 2.93 (.12)$_b$<br>15.4%$_b$ | 3.33 (.24)$_b$<br>22.9%$_b$ | 4.29 (.11)$_c$<br>43.7%$_c$ |
| Sign petition | 2.33 (.32)$_a$<br>48.5%$_a$ | 4.14 (.14)$_b$<br>79.9%$_b$ | 5.53 (.18)$_c$<br>93.3%$_c$ | 5.74 (.07)$_c$<br>95.5%$_c$ |
| Talk to friends/family | 2.40 (.32)$_a$<br>12.2%$_a$ | 4.37 (.12)$_b$<br>26.3%$_a$ | 5.84 (.13)$_c$<br>45.8%$_b$ | 5.70 (.06)$_c$<br>59.6%$_b$ |
| Email to politician | 1.04 (.04)$_a$<br>8.1%$_{ade}$ | 2.65 (.11)$_b$<br>4.0%$_{be}$ | 3.13 (.23)$_{bc}$<br>11.3%$_{abc}$ | 3.57 (.11)$_c$<br>10.8%$_{cd}$ |
| Donate | 2.56 (.33)$_a$<br>20.4%$_a$ | 3.98 (.14)$_b$<br>51.8%$_b$ | 5.00 (.19)$_c$<br>60.0%$_{bc}$ | 5.37 (.08)$_c$<br>72.4%$_c$ |
| Attend rally | 1.34 (.13)$_a$<br>0.0%$_{ab}$ | 2.56 (.11)$_b$<br>1.8%$_{cb}$ | 3.02 (.22)$_{bc}$<br>8.2%$_{acd}$ | 3.44 (.11)$_c$<br>5.8%$_d$ |
| Volunteer | 1.62 (.18)$_a$<br>6.2%$_{ade}$ | 3.19 (.11)$_b$<br>5.9%$_{be}$ | 3.93 (.20)$_c$<br>13.0%$_{abc}$ | 4.40 (.09)$_d$<br>13.7%$_{cd}$ |
| Offer a place to stay | 1.33 (.12)$_a$<br>0.0%$_{ab}$ | 2.14 (.09)$_b$<br>0.0%$_{cb}$ | 2.40 (.19)$_{bc}$<br>3.9%$_{acd}$ | 2.70 (.09)$_c$<br>2.8%$_d$ |

Subscripts denote where profiles are significantly different at $p < .05$.

## Supplementary Tables

**Table S9.**

*Correlations Between Motivation Types and Other Key Variables.*

| | | Intrinsic motivation | Integrated regulation | Identified regulation | Introjected regulation | External regulation | Amotivation | Sample mean |
|---|---|---|---|---|---|---|---|---|
| Sympathy | Study 1 | - | .499*** | .403*** | .196*** | -.187*** | - | 6.20 (0.92) |
| | Romania | .426*** | .411*** | .473*** | .359*** | .051 | -.180*** | 6.03 (0.94) |
| | Hungary | .359*** | .507*** | .528*** | .341*** | -.066 | -.238*** | 5.86 (1.00) |
| | UK | .299*** | .572*** | .563*** | .263*** | .002 | -.280*** | 6.19 (0.74) |
| Guilt | Study 1 | - | .274*** | .271*** | .265*** | -.057 | - | 3.91 (1.57) |
| | Romania | .378*** | .389*** | .269*** | .410*** | .307*** | -.004 | 3.69 (1.36) |
| | Hungary | .307*** | .343*** | .284*** | .363*** | .133*** | -.107** | 3.91 (1.30) |
| | UK | .247*** | .280*** | .240*** | .307*** | .236*** | -.012 | 3.34 (1.36) |
| Outrage | Study 1 | - | .417*** | .296*** | .214*** | -.047 | | 4.92 (1.81) |
| | Romania | .138*** | .149*** | .089* | .080* | .018 | .022 | 4.056 (1.85) |
| | Hungary | .216*** | .346*** | .331*** | .326*** | .012 | -.091* | 4.97 (1.51) |
| | UK | .111* | .297*** | .351*** | .145** | .002 | -.060 | 5.11 (1.44) |
| Hope | Study 1 | - | .126*** | .133*** | .040 | .056 | - | 4.22 (1.50) |
| | Romania | .319*** | .276*** | .299*** | .303*** | .151*** | -.043 | 5.39 (1.29) |
| | Hungary | .305*** | .307*** | .239*** | .248*** | .121*** | -.038 | 4.36 (1.34) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | UK | .276*** | .264*** | .267*** | .204*** | .108* | -.144** | 4.77 (1.15) |
| Despair | Study 1 | - | - | - | - | - | - | - |
| | Romania | .328*** | .329*** | .311*** | .362*** | .218*** | -.003 | 4.30 (1.46) |
| | Hungary | .203*** | .266*** | .237*** | .260*** | .124*** | -.030 | 4.79 (1.31) |
| | UK | .148*** | .284*** | .285*** | .255*** | .097* | .026 | 4.17 (1.34) |
| Efficacy | Study 1 | - | - | - | - | - | - | - |
| | Romania | .554*** | .544*** | .609*** | .365*** | .042 | -.303*** | 5.94 (1.08) |
| | Hungary | .425*** | .575*** | .573*** | .364*** | -.059 | -.330*** | 5.60 (1.13) |
| | UK | .246*** | .469*** | .485*** | .185*** | .069 | -.232*** | 5.82 (0.97) |
| Moral | Study 1 | - | - | - | - | - | - | - |
| Conviction | Romania | .540*** | .596*** | .571*** | .423*** | .135*** | -.208*** | 5.62 (1.14) |
| | Hungary | .409*** | .662*** | .629*** | .432*** | -.048 | -.339*** | 5.49 (1.25) |
| | UK | .293*** | .500*** | .462*** | .251*** | .085 | -.160*** | 5.72 (1.04) |
| Identification | Study 1 | - | .548*** | .510*** | .255*** | -.142*** | - | 5.51 (1.02) |
| | Romania | .578*** | .606*** | .579*** | .433*** | .152*** | -.273*** | 5.53 (1.14) |
| | Hungary | .481*** | .657*** | .661*** | .469*** | -.057 | -.323*** | 5.34 (1.18) |
| | UK | .291*** | .464*** | .455*** | .260*** | .091* | -.175*** | 5.66 (0.95) |
| Intentions | Study 1 | - | .495*** | .444*** | .216*** | -.147*** | - | 4.74 (1.29) |
| | Romania | .643*** | .666*** | .600*** | .511*** | .220*** | -.211*** | 4.28 (1.32) |
| | Hungary | .439*** | .540*** | .531*** | .429*** | .059 | -.239*** | 3.76 (1.34) |
| | UK | .382*** | .554*** | .535*** | .341*** | .214*** | -.219*** | 3.77 (1.23) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Action | Study 1 | - | .322*** | .312*** | .168*** | -.137*** | - | 1.09 (1.20) |
| | Romania | .553*** | .563*** | .499*** | .409*** | .176*** | -.214*** | 3.30 (2.30) |
| | Hungary | .394*** | .513*** | .493*** | .411*** | -.081* | -.285*** | 2.83 (2.23) |
| | UK | .309*** | .441*** | .462*** | .303*** | .1445** | -.188*** | 3.11 (2.02) |
| Intrinsic | Study 1 | - | - | - | - | - | - | - |
| | Romania | - | .802*** | .685*** | .599*** | .218*** | -.278*** | 5.16 (1.33) |
| | Hungary | - | .654*** | .628*** | .661*** | .191*** | -.218*** | 4.82 (1.40) |
| | UK | - | .526*** | .494*** | .572*** | .373*** | -.128** | 4.55 (1.28) |
| Integrated | Study 1 | - | - | .485*** | .159*** | -.219*** | - | 5.92 (1.08) |
| | Romania | - | - | .773*** | .581*** | .150*** | -.350*** | 5.42 (1.26) |
| | Hungary | - | - | .848*** | .600*** | .015 | -.341*** | 5.33 (1.31) |
| | UK | - | - | .814*** | .401*** | .074 | -.333*** | 5.56 (1.10) |
| Identified | Study 1 | - | - | - | .286*** | -.075* | - | 5.62 (1.28) |
| | Romania | - | - | - | .553*** | .092* | -.370*** | 5.75 (1.21) |
| | Hungary | - | - | - | .569*** | -.008 | -.363*** | 5.53 (1.27) |
| | UK | - | - | - | .404*** | .055 | -.374*** | 5.62 (1.06) |
| Introjected | Study 1 | - | - | - | - | .286*** | - | 4.17 (1.81) |
| | Romania | - | - | - | - | .523*** | -.054 | 4.76 (1.34) |
| | Hungary | - | - | - | - | .308*** | -.123*** | 4.43 (1.36) |
| | UK | - | - | - | - | .612*** | .023 | 4.16 (1.31) |
| External | Study 1 | - | - | - | - | - | - | 2.00 (1.20) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Romania | - | - | - | - | - | .350*** | 3.21 (1.51) |
| | Hungary | - | - | - | - | - | .355*** | 2.79 (1.32) |
| | UK | - | - | - | - | - | .264*** | 3.11 (1.17) |
| Amotivation | Study 1 | - | - | - | - | - | - | - |
| | Romania | - | - | - | - | - | - | 2.93 (1.60) |
| | Hungary | - | - | - | - | - | - | 3.02 (1.41) |
| | UK | - | - | - | - | - | - | 3.03 (1.26) |

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

# Appendix B

## Chapter 3 – Supplementary Materials

### Missing Values Analysis

A missing values analysis of all items used for the analysis at both time points, as well as demographic variables (e.g., age, gender, education) suggested that the data were not Missing Completely At Random, Little's MCAR test: $\chi^2(4343) = 4665.52$, $p < .001$. However, subsequent independent samples *t*-tests revealed that there was no significant difference between participants who completed Time 1 only and those who participated at both times on any of the measures. Social identification was marginally significant at $p = .07$, but it was those who completed only Time 1 who scored higher on this measure ($M = 5.70$, $SD = 0.84$) than those who also participated at Time 2 ($M = 5.54$, $SD = 1.00$), suggesting that the Time 2 sample was not biased towards participants who identified more strongly with the cause overall. We concluded that the data were Missing At Random (MAR; see Bennett, 2001 for the distinction between MAR and MCAR).

### Measurement Models

Measurement invariance is a precondition of longitudinal analysis and is violated when constraining model parameters to be the same across time points results in a significant increase in chi-square value (Vandenberg & Lance, 2000). Configural invariance is when the same items load onto the latent factors across time; metric invariance is present when factor loadings are consistent; scalar invariance refers to equivalence of item intercepts; finally, residual invariance is when the sum of specific invariance (i.e., variance of the item not shared with the factor) and error variance is equivalent (Putnick & Bornstein, 2016).

There is no clearly preferred method for dealing with measurement variance in the literature (Könen & Auerswald, 2021). We opted not to apply invariance constraints to parameters that were not invariant as this risks introducing bias in the parameter estimates (Kim et al., 2020). Table S10 shows that the latent variables for autonomous motivation and controlled motivation demonstrated good fit when constrained to metric, configural, scalar, and residual invariance. The latent variables for social identification evidenced similarly good fit but this was improved when the item 'I see myself as a supporter of efforts to end global poverty' was not constrained to have residual invariance (see Table S10). Thus, this minor aspect of measurement variance was incorporated in the tests of the structural models.

**Table S10.**

*Tests of Measurement Invariance.*

| | | $\chi^2$ (df), *p* | AIC | RMSEA [90% CI] | CFI | SRMR |
|---|---|---|---|---|---|---|
| Autonomous motivation | Configural invariance | 10.405 (5) *p* = .065 | 5277.154 | .044 [.000, .083] | .996 | .022 |
| | Metric invariance | 10.708 (7) *p* = .152 | 5273.457 | .031 [.000, .066] | .997 | .025 |
| | Scalar invariance | 14.001 (10) *p* = .173 | 5270.750 | .027 [.000, .057] | .997 | .036 |
| | Residual invariance | 16.271 (13) *p* = .235 | 5267.019 | .021 [.000, .050] | .997 | .036 |
| Controlled motivation | Configural invariance | 15.966 (5), *p* = .007 | 7424.366 | .063 [.030, .099] | .982 | .040 |
| | Metric invariance | 18.575 (7), *p* = .010 | 7422.975 | .055 [.025, .086] | .981 | .041 |
| | Scalar invariance | 20.146 (10), *p* = .028 | 7418.547 | .043 [.014, .070] | .983 | .044 |
| | Residual invariance | 25.479 (13), *p* = .020 | 7417.879 | .042 [.016, .066] | .979 | .043 |
| Social identification | Configural invariance | 3.049 (5), *p* = .692 | 5580.234 | .000 [.000, .045] | 1.00 | .009 |
| | Metric invariance | 4.865 (7), *p* = .677 | 5578.049 | .000 [.000, .041] | 1.00 | .028 |
| | Scalar invariance | 7.730 (10), *p* = .655 | 5574.915 | .000 [.000, .037] | 1.00 | .033 |
| | Residual invariance | 16.251 (13), *p* = .236* | 5577.436 | .021 [.000, .049] | .998 | .042 |
| | Residual invariance (excluding 'I see myself as a supporter') | 8.441 (12), *p* = .750 | 5571.625 | .000 [.000, .031] | 1.00 | .046 |

*Note.* *Denotes chi-square was significantly larger than previous chi-square.

# Appendix C

## Chapter 4 – Supplementary Materials

## Section A: The Role of Introjected and External Regulation in Sustaining Identification and Action After Failure

We examined whether different types of controlled motivation would have distinct effects on identification and action, after failure. Although controlled motivation is considered as a broad category within self-determination theory, it can also be divided into two sub-types of regulation; external and introjected regulation. *External regulation* is the more externalised (less self-determined) of the two motives, and refers to behaviour that is driven purely by reward or punishment, while the behaviour or outcome itself holds no personal importance (Deci et al., 1999). *Introjected regulation* is sometimes considered to be partially internalised and is when the behaviour becomes relevant to one's self-evaluation, e.g., eliciting feelings of shame, guilt, or pride, but is only valued because of its impact on these self-evaluations and is not fully internalised (Koestner et al., 1996). Previous research suggests that introjected and external regulations do not adequately reflect a single underlying construct of controlled motivation (Howard et al., 2017; Howard et al., 2020) and thus may have distinct effects on action (Chapter 3). Thus, we also conducted exploratory analyses in all three studies to examine how these motives (i.e., external regulation and introjected regulation as two forms of controlled motivation) respectively influence identification and action, and how these effects may differ based on success and failure.

### Study 1

We conducted two analyses using Model 8 in the PROCESS macro to test the interaction between introjected [external] regulation (IV) and condition (W) on opinion-based group

identification (M) and action intentions (Y). There were no significant effects of introjected (Table S11) or external regulation (Table S12) on any variable in any condition, and no interactions with outcome. There was a significant main effect of introjected regulation on opinion-based group identification.

**Table S11.**

*Test of the Effects of Introjected Regulation on Collective Action via Identification, Moderated by Outcome.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Failure (condition) | 0.09 [-0.51, 0.70] | .31 | - | - |
| Introjected regulation | 0.11 [0.00, 0.23]* | 0.6 | - | - |
| Failure*Introjected regulation | -0.00 [-0.11, 0.10] | .05 | - | - |
| Identification T1 | 0.62 [0.48, 0.76]*** | .07 | - | - |
| Action intentions T1 | 0.05 [-0.05, 0.15] | .05 | - | - |
| Step 2 | | | | |
| Failure (condition) | - | - | -0.41 [-1.06, 0.24] | .33 |
| Identification | - | - | 0.54 [0.39, 0.70]*** | .08 |
| Introjected regulation | - | - | 0.05 [-0.07, 0.17] | .06 |
| Failure*Introjected regulation | - | - | 0.08 [-0.03, 0.19] | .06 |
| Identification T1 | - | - | -0.25 [-0.43, -0.07]** | .09 |
| Action intentions T1 | - | - | 0.78 [0.67, 0.89]*** | .06 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation -0.01 [-0.13, 0.12], $SE = 0.06$.

**Table S12.**

*Test of the Effects of External Regulation on Collective Action via Identification, Moderated by Outcome.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Failure (condition) | 0.07 [-0.22, 0.36] | .15 | - | - |
| External regulation | 0.06 [-0.04, 0.15] | .05 | - | - |
| Failure*External regulation | -0.00 [-0.09, 0.08] | .04 | - | - |
| Identification T1 | 0.67 [0.54, 0.80]*** | .07 | - | - |
| Action intentions T1 | 0.04 [-0.07, 0.14] | .05 | - | - |
| Step 2 | | | | |
| Failure (condition) | - | - | -0.05 [-0.36, 0.26] | .16 |
| Identification | - | - | 0.54 [0.39, 0.70]*** | .08 |
| External regulation | - | - | 0.06 [-0.04, 0.15] | .05 |
| Failure*External regulation | - | - | 0.03 [-0.06, 0.13] | .05 |
| Identification T1 | - | - | -0.25 [-0.42, -0.07]** | .09 |
| Action intentions T1 | - | - | 0.76 [0.65, 0.87]*** | .06 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation = -.000 [-0.12, 0.14], *SE* = .06.

## Study 2

We conducted two analyses using Model 8 identical to those in Study 1. There were no main effects of motivation or interactions between introjected regulation (Table S13) or external regulation (Table S14) and failure or success in any of these models.

**Table S13.**

*Test of the Effects of Introjected Regulation on Collective Action via Identification, Moderated by Failure and Success.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Failure (condition) | 0.05 [-0.49, 1.04] | .50 | - | - |
| Success (condition) | -0.05 [-0.99, 0.89] | .47 | - | - |
| Introjected regulation | 0.06 [-0.07, 0.20] | .07 | - | - |
| Failure*Introjected regulation | -0.03 [-0.20, 0.15] | .09 | - | - |
| Success*Introjected regulation | 0.01 [-0.15, 0.17] | .08 | - | - |
| Identification T1 | 0.57 [0.42, 0.72]*** | .07 | - | - |
| Action intentions T1 | 0.10 [-0.03, 0.23] | .07 | - | - |
| Step 2 | | | | |
| Failure (condition) | - | - | 0.31 [-0.67, 1.30] | .50 |
| Success (condition) | - | - | -0.99 [-1.92, -0.06]* | .47 |
| Identification | - | - | 0.42 [0.25, 0.59]*** | .09 |
| Introjected regulation | - | - | 0.08 [-0.05, 0.21] | .07 |
| Failure*Introjected regulation | - | - | -0.01 [-0.18, 0.16] | .09 |
| Success*Introjected regulation | - | - | 0.12 [-0.05, 0.28] | .08 |
| Identification T1 | - | - | -0.10 [-0.28, 0.08] | .09 |
| Action intentions T1 | - | - | 0.42 [0.29, 0.55]*** | .07 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation for failure = -0.01 [-0.09, 0.06], *SE* = 0.04. Index of moderated moderated mediation for success = 0.00 [-0.07, 0.08], *SE* = 0.04.

**Table S14.**

*Test of the Effects of External Regulation on Collective Action via Identification, Moderated by Failure and Success.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Failure (condition) | -0.27 [-0.73, 0.19] | .23 | - | - |
| Success (condition) | 0.11 [-0.33, 0.56] | .23 | - | - |
| External regulation | 0.01 [-0.09, 0.11] | .05 | - | - |
| Failure*External regulation | 0.06 [-0.08, 0.20] | .07 | - | - |
| Success*External regulation | -0.04 [-0.18, 0.10] | .07 | - | - |
| Identification T1 | 0.59 [0.46, 0.73]*** | .07 | - | - |
| Action intentions T1 | 0.10 [-0.03, 0.23] | .07 | - | - |
| Step 2 | | | | |
| Failure (condition) | - | - | 0.27 [-0.20, 0.73] | .23 |
| Success (condition) | - | - | -0.26 [-0.71, 0.19] | .23 |
| Identification | - | - | 0.43 [0.26, 0.61]*** | .09 |
| External regulation | - | - | -0.09 [-0.19, 0.01] | .05 |
| Failure*External regulation | - | - | 0.00 [-0.13, 0.14] | .07 |
| Success*External regulation | - | - | -0.03 [-0.18, 0.11] | .07 |
| Identification T1 | - | - | -0.04 [-0.22, 0.13] | .09 |
| Action intentions T1 | - | - | 0.42 [0.29, 0.55]*** | .07 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation for failure = 0.03 [-0.04, 0.08], *SE* = 0.03. Index of moderated moderated mediation for success = -0.02 [-0.08, 0.06], *SE* = 0.04.

## Study 3

We conducted two analyses using Model 12 to test the interaction between introjected [external] regulation (IV), outcome (W) and framing (Z) on opinion-based group identification (M) and action intentions (Y). Autonomous motivation and external [introjected] regulation were entered as covariates, consistent with the tests of hypotheses reported in the chapter.

We first tested the effects of introjected regulation. Effects are displayed in Table S15 and simple slopes in Table S16. There was a significant three-way interaction on action intentions, when controlling for identification, such that the direct effect of introjected regulation on action was positive and greater for those in the success group than those in the failure group when framing was specific ($b$ = .27, $F$(1, 366) = 8.72, $p$ = .003) but there was no difference when framing was broad ($b$ = -.08, $F$(1, 366) = 0.57, $p$ = .45). There were no interactions on identification, and no evidence of moderated moderated mediation.

**Table S15.**

*Test of the Effects of Introjected Regulation on Collective Action via Identification, Moderated by Outcome and Framing.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Introjected regulation | 0.36 [-0.21, 0.94] | 0.29 | -0.43 [-1.17, 0.31] | 0.38 |
| Outcome (condition) | 1.04 [-0.80, 2.88] | 0.93 | -2.89 [-5.24, -0.53]* | 1.20 |
| Framing (condition) | 0.59 [-1.27, 2.45] | 0.94 | -2.07 [-4.44, 0.31] | 1.21 |
| Outcome*Introjected regulation | -0.20 [-0.56, 0.17] | 0.19 | 0.49 [0.02, 0.96]* | 0.24 |
| Framing*Introjected regulation | -0.10 [-0.47, 0.28] | 0.19 | 0.40 [-0.08, 0.88] | 0.24 |
| Outcome*Framing | -0.34 [-1.55, 0.88] | 0.62 | 1.74 [0.19, 3.30]* | 0.79 |
| Outcome*Framing*Introjected regulation | 0.07 [-0.17, 0.31] | 0.12 | -0.30 [-0.61, 0.01] | 0.16 |
| Autonomous motivation | 0.50 [0.41, 0.60]*** | 0.05 | 0.46 [0.33, 0.58]*** | 0.06 |
| External regulation | 0.04 [-0.03, 0.10] | 0.04 | 0.09 [0.00, 0.17] | 0.04 |
| Step 2 | | | | |
| Introjected regulation | - | - | -0.66 [-1.30, -0.02]* | 0.33 |
| Outcome (condition) | - | - | -3.54 [-5.60, -1.49]*** | 1.05 |
| Framing (condition) | - | - | -2.44 [-4.51, -0.37]* | 1.05 |
| Identification | - | - | 0.63 [0.52, 0.75]*** | 0.06 |
| Outcome*Introjected regulation | - | - | 0.62 [0.20, 1.03]** | 0.21 |
| Framing*Introjected regulation | - | - | 0.46 [0.04, 0.89]* | 0.21 |
| Outcome*Framing | - | - | 1.96 [0.60, 3.31]** | 0.69 |
| Outcome*Framing*Introjected regulation | - | - | -0.35 [-0.62, -0.08]* | 0.14 |
| Autonomous motivation | - | - | 0.14 [0.02, 0.26]* | 0.06 |
| External regulation | - | - | 0.06 [-0.01, 0.14] | 0.04 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation = 0.04[-0.16, 0.26], *SE* = 0.11. Index of moderated mediation (by outcome) in specific conditions = -0.08 [-0.21, 0.04], *SE* = 0.06. Index of moderated mediation (by outcome) in broad conditions = -0.04 [-0.19, 0.13], *SE* = 0.08.

**Table S16.**

*Simple Slopes Analysis – Effects of Introjected Regulation by Level of Outcome and Framing.*

| | | Identification | | Action intentions | | Indirect effect | |
|---|---|---|---|---|---|---|---|
| | | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Specific | Failure | 0.14 [0.02, 0.26]* | 0.06 | 0.07 [-0.07, 0.21] | 0.07 | 0.09 [0.00, 0.19]* | 0.05 |
| | Success | 0.01 [-0.11, 0.13] | 0.06 | 0.34 [0.20, 0.47]* | 0.07 | 0.01 [-0.10, 0.12] | 0.06 |
| Broad | Failure | 0.11 [-0.02, 0.24] | 0.07 | 0.18 [0.04, 0.33]* | 0.07 | 0.07 [-0.06, 0.19] | 0.06 |
| | Success | 0.06 [-0.09, 0.20] | 0.07 | 0.11 [-0.06, 0.27] | 0.08 | 0.04 [-0.06, 0.15] | 0.05 |

*Note*. * denotes confidence interval does not include zero.

We then tested the effects of external regulation. Effects are displayed in Table S17 and simple slopes in Table S18. External regulation negatively predicted identification and collective action intentions. There was a three-way interaction on identification such that there was a positive effect of external regulation on identification for the failure group but not the success group when framing was broad ($b$ = -.33, $F(1, 367) = 11.84$, $p < .001$) but not when it was specific ($b$ = .11, $F(1, 367) = 1.40$, $p = .24$). Similarly, there was a three-way interaction on the indirect effect of external regulation on action via identification, such that it was significant and positive only in the failure condition when framing was broad.

**Table S17.**

*Test of the Effects of External Regulation on Collective Action via Identification, Moderated by Outcome and Framing.*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| External regulation | -1.02 [-1.66, -0.38]** | 0.32 | -0.96 [-1.79, -0.12]* | 0.42 |
| Outcome (condition) | -1.36 [-2.56, -0.16]* | 0.61 | -2.24 [-3.80, -0.68]** | 0.79 |
| Framing (condition) | -2.03 [-3.24, -0.82]** | 0.61 | -1.72 [-3.30, -0.15]* | 0.80 |
| Outcome*External regulation | 0.55 [0.14, 0.96]** | 0.21 | 0.65 [0.12, 1.19]* | 0.27 |
| Framing*External regulation | 0.82 [0.41, 1.23]*** | 0.21 | 0.60 [0.07, 1.13]* | 0.27 |
| Outcome*Framing | 1.17 [0.39, 1.95]** | 0.40 | 1.27 [0.25, 2.29]* | 0.52 |
| Outcome*Framing*External regulation | -0.44 [-0.70, -0.18]** | 0.13 | -0.37 [-0.72, -0.03]* | 0.17 |
| Autonomous motivation | 0.50 [0.41, 0.60]*** | 0.05 | 0.44 [0.32, 0.56]*** | 0.06 |
| Introjected regulation | 0.09 [0.01, 0.16]* | 0.04 | 0.24 [0.14, 0.34]*** | 0.05 |
| Step 2 | | | | |
| External regulation | - | - | -0.32 [-1.06, 0.43] | 0.38 |
| Outcome (condition) | - | - | -1.39 [-2.77, 0.00]* | 0.70 |
| Framing (condition) | - | - | -0.45 [-1.86, 0.95] | 0.72 |
| Identification | - | - | 0.63 [0.51, 0.74] | 0.06 |
| Outcome*External regulation | - | - | 0.31 [-0.16, 0.78] | 0.24 |
| Framing*External regulation | - | - | 0.09 [-0.39, 0.57] | 0.24 |
| Outcome*Framing | - | - | 0.53 [-0.37, 1.44] | 0.46 |
| Outcome*Framing*External regulation | - | - | -0.10 [-0.40, 0.21] | 0.16 |
| Autonomous motivation | - | - | 0.13 [0.00, 0.25]* | 0.06 |
| Introjected regulation | - | - | 0.18 [0.10, 0.27]*** | 0.04 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation = -0.28 [-0.51, -0.05], *SE* = 0.11. Index of moderated mediation (by outcome) in

specific conditions = 0.07 [-0.04, 0.19], *SE* = 0.06. Index of moderated mediation (by outcome) in broad conditions = -0.21 [-0.39, -0.03], *SE* = 0.09.

**Table S18.**

*Simple Slopes Analysis – Effects of External Regulation by Level of Outcome and Framing.*

| | | Identification | | Action intentions | | Indirect effect | |
|---|---|---|---|---|---|---|---|
| | | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Specific | Failure | -0.10 [-0.22, 0.03] | 0.06 | -0.02 [-0.16, 0.13] | 0.07 | -0.06 [-0.14, 0.01] | 0.04 |
| | Success | 0.01 [-0.12, 0.15] | 0.07 | 0.20 [0.05, 0.35]* | 0.08 | 0.01 [-0.07, 0.10] | 0.04 |
| Broad | Failure | 0.28 [0.15, 0.41]* | 0.07 | -0.02 [-0.18, 0.13] | 0.08 | 0.18 [0.02, 0.33]* | 0.08 |
| | Success | -0.05 [-0.19, 0.09] | 0.07 | 0.09 [-0.07, 0.25] | 0.08 | -0.03 [-0.12, 0.05] | 0.04 |

*Note*. * denotes confidence interval does not include zero.

## Discussion

In Studies 1 and 2, we found no interactions between controlled forms of motivation and failure condition, suggesting that the relative importance of these forms of motivation does not change when a group experiences failure compared to success. However, in Study 3, introjected regulation positively predicted collective action intentions after experiencing specific success, though there was no evidence of mediation via identification. It may be that introjected motives are associated with feelings of pride after experiencing a clear success, which have been found to predict perceptions of group efficacy and subsequent collective action (Tausch & Becker, 2013). Previous research finds mixed effects of introjected regulation, with some studies reporting positive effects on behaviour and others reporting negative effects (see Howard et al., 2017 for a meta-analysis). It may be that its effects are more positive when the movement experiences success, but it does not sustain action over time (Chapter 3) or through setbacks.

In Study 3, external regulation positively predicted identification and, in turn, collective action after failure, but only when failure was broad. External rewards which typically do not predict resilience in the face of setbacks (e.g., Holding et al., 2017; Leduc-Cummings et al., 2022) may play a role when a political movement is failing to reach its broader goals. It may be that external rewards such as social approval increase in importance as a motivator of action when the movement is failing because they are still attainable when the movement's goals are not. However, it is worth noting that even in the broad-failure condition, the effect of external regulation on action intentions was weaker than that of autonomous motivation; and we found no effects of external regulation in Study 2. Thus, although we found some positive effects of controlled forms of motivation, the findings support the assertion that autonomous motivation is

the strongest and most consistent driver of continued action in any context, and regardless of outcome.

Further research is needed to understand the role of controlled forms of motivation, which appear to have positive effects on identification and action when paired with autonomous motives (Chapter 2), but may be detrimental to sustained action over time (Chapter 3). The present studies do not suggest that controlled forms of motivation are detrimental to social movements, but provide further evidence that they are not effective in eliciting the same positive outcomes associated with autonomous motives.

## Section B: Supplementary Materials for Study 2

We repeated a version of the test of hypotheses for Study 2 (Model 8) using a dichotomous independent variable testing the effects of membership in the combined condition (where participants were asked to reflect on both failure and success) with the control condition. First, the manipulation check did not show any differences in perceptions of success ($M = 4.51$, $SD = 1.49$, $p = .65$) or failure ($M = 4.42$, $SD = 1.60$, $p = .99$) between the combined condition and the control group. We tested whether the combined manipulation (W) predicted the effects of autonomous motivation (X) on action intentions (Y) via identification (M). There were no effects of combined (vs control) condition or interactions with autonomous motivation on any dependent variables (Table S19). However, the simple slopes suggested that the effect of autonomous motivation on identification ($b = 0.38$ [0.09, 0.67], $SE = 0.15$), and the indirect effect on action via identification ($b = 0.10$ [0.0001, 0.25], $SE = 0.07$) was positive and significant in the combined condition but not in the control condition (see Chapter 4).

**Table S19.**

*Test of the Effects of Autonomous Motivation on Collective Action via Identification, Moderated by Condition (Combined vs. Control).*

| | Identification | | Action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Combined (condition) | -0.58 [-1.65, 0.48] | .53 | - | - |
| Autonomous motivation | 0.29 [0.07, 0.50]** | .11 | - | - |
| Combined*Autonomous motivation | 0.09 [-0.10, 0.28] | .09 | - | - |
| Identification T1 | 0.48 [0.28, 0.67]*** | .10 | - | - |
| Action intentions T1 | -0.02 [-0.18, 0.14] | .08 | - | - |
| Step 2 | | | | |
| Combined (condition) | - | - | -0.04 [-1.18, 1.09] | .57 |
| Identification | - | - | 0.26 [0.02, 0.49]* | .12 |
| Autonomous motivation | - | - | 0.12 [-0.12, 0.36] | .12 |
| Combined*Autonomous motivation | - | - | -0.02 [-0.22, 0.18] | .10 |
| Identification T1 | - | - | -0.04 [-0.27, 0.20] | .12 |
| Action intentions T1 | - | - | 0.38 [0.21, 0.55]*** | .09 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated mediation = 0.05 [-0.05, 0.19], *SE* = 0.06.

## Section C: Supplementary Materials for Study 3

### Full text for the manipulation of outcome and framing

*Specific-success condition*

**COP28 a success: countries commit to transitioning away from fossil fuels**

The 2023 United Nations Climate Change Conference (known as COP28) held in December last year was a success. For the first time ever, the final agreement between participating countries included acknowledgement of the need to transition away from fossil fuels in order to mitigate the worst effects of climate change. 'Fossil fuels faced a reckoning at the U.N. climate negotiations,' said Ani Dasgupta, president of the World Resources Institute, in a statement. 'This historic outcome marks the beginning of the end of the fossil fuel era.'

*Specific-failure condition*

**COP28 a failure: no commitment to phaseout of fossil fuels**

The 2023 United Nations Climate Change Conference (known as COP28) held in December last year was a failure. Despite the efforts of campaigners, the final agreement between participating countries failed to include any commitment to phase out fossil fuels in order to mitigate the worst effects of climate change. 'Fossil fuels were the winner at the U.N. climate negotiations,' said Ani Dasgupta, president of the World Resources Institute, in a statement. 'This disappointing outcome cements the continuation of the fossil fuel era.'

*Broad-success condition*

**Climate movement is succeeding: decades of campaigning are paying off**

The climate movement has enjoyed recent successes, achieving a range of milestones suggesting that its goals are in sight. Globally, investment in renewable energy continues to increase every year, and major falls in the cost of solar and wind energy suggest that the end of

fossil fuels is near. For the first time ever, we have seen international consensus on the need to transition away from fossil fuels in order to mitigate the worst effects of climate change. President of the World Resources Institute, Ani Dasgupta, said in a statement that this is 'the beginning of the end of the fossil fuel era,' suggesting that the climate movement is succeeding in achieving its goals.

*Broad-failure condition*

**Climate movement is failing: no progress after decades of campaigning**

The climate movement has experienced recent failures, reaching a range of milestones suggesting that it has failed to reach its key targets. Globally, carbon emissions continue to increase every year, and the approval of hundreds of new oil and gas projects suggests that the end of fossil fuels is nowhere in sight. Despite decades of effort from campaigners, there is still no international consensus on the need to phase out fossil fuels in order to mitigate the worst effects of climate change. President of the World Resources Institute, Ani Dasgupta, said in a statement that we are now 'more likely than not' to pass the safe threshold of 1.5 degrees of global warming, suggesting that the climate movement is failing to achieve its goals.

**Exploratory analysis of the effects of autonomous motivation on radical action intentions**

We conducted Model 8 in PROCESS to test the interaction between autonomous motivation (IV), outcome (W) and framing (Z) on identification (M) and radical action intentions (Y). Introjected regulation and external regulation were entered as covariates, consistent with the analyses of hypotheses for Study 3, and collective action intentions were also entered as covariates. There was no evidence of an indirect effect of autonomous motivation on radical action intentions, via identification (Table S20). However, we found evidence of a positive direct effect of autonomous motivation on radical action intentions for those who failed, but only in the broad conditions ($b$ = -0.41, $F(1, 365) = 7.59$, $p$ = .01). There was no moderation by outcome in the specific conditions ($b$ = -0.12, $F(1, 365) = 0.73$, $p$ = .39). The simple slopes are presented in Table S21. Thus, those with the strongest internalised commitment to the cause are most likely to pursue radical tactics, but only when the movement is broadly failing.

**Table S20.**

*Test of the Effects of Autonomous Motivation on Radical Action Intentions via Identification, Moderated by Outcome and Framing.*

| | Identification | | Radical action intentions | |
|---|---|---|---|---|
| Step 1 | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Autonomous motivation | 1.33 [0.71, 1.96]*** | 0.32 | | |
| Outcome (condition) | 3.29 [1.17, 5.41]** | 1.08 | | |
| Framing (condition) | 3.32 [1.18, 5.47]** | 1.09 | | |
| Outcome*Autonomous motivation | -0.57 [-0.97, -0.18]** | 0.20 | | |
| Framing*Autonomous motivation | -0.60 [-1.00, -0.20]** | 0.20 | | |
| Outcome*Framing | -1.88 [-3.26, -0.51]** | 0.70 | | |
| Outcome*Framing*Autonomous motivation | 0.34 [0.08, 0.60]** | 0.13 | | |
| Introjected regulation | -0.01 [-0.08, 0.05] | 0.04 | | |
| External regulation | 0.00 [-0.06, 0.06] | 0.03 | | |
| Collective action intentions | 0.38 [0.31, 0.45]*** | 0.04 | | |
| Step 2 | | | | |
| Autonomous motivation | - | - | -0.55 [-1.55, 0.44] | 0.51 |
| Outcome (condition) | - | - | -0.69 [-4.04, 2.65] | 1.70 |
| Framing (condition) | - | - | -3.25 [-6.64, 0.14] | 1.72 |
| Identification | - | - | 0.00 [-0.16, 0.16] | 0.08 |
| Outcome*Autonomous motivation | - | - | 0.18 [-0.45, 0.80] | 0.32 |
| Framing*Autonomous motivation | - | - | 0.65 [0.02, 1.29]* | 0.32 |
| Outcome*Framing | - | - | 1.37 [-0.80, 3.53] | 1.10 |
| Outcome*Framing*Autonomous motivation | - | - | -0.29 [-0.70, 0.11] | 0.21 |
| Introjected regulation | - | - | -0.17 [-0.28, -0.07]** | 0.05 |

| | | | | |
|---|---|---|---|---|
| External regulation | - | - | 0.42 [0.32, 0.51]* | 0.05 |
| Collective action intentions | - | - | 0.47 [0.35, 0.59]* | 0.06 |

*Note*. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Index of moderated moderated mediation = 0.001 [-0.05, 0.60], *SE* = 0.03. Index of moderated mediation (by outcome) in specific conditions = -0.001 [-0.04, 0.04], *SE* = 0.02. Index of moderated mediation (by outcome) in broad conditions = 0.000 [-0.03, 0.3], *SE* = 0.01.

**Table S21.**

*Simple Slopes Analysis of the Effects of Autonomous Motivation on Outcomes by Condition.*

| | | Identification | | Radical action intentions | | Indirect effect | |
|---|---|---|---|---|---|---|---|
| | | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* | *b* [95% *CI*] | *SE* |
| Specific | Failure | 0.50 [0.37, 0.64]* | 0.07 | -0.02 [-0.24, 0.21] | 0.12 | 0.00 [-0.07, 0.07] | 0.04 |
| | Success | 0.27 [0.13, 0.41]* | 0.07 | -0.14 [-0.35, 0.08] | 0.11 | 0.00 [-0.04, 0.04] | 0.02 |
| Broad | Failure | 0.24 [0.09, 0.39]* | 0.07 | 0.34 [0.11, 0.57]* | 0.12 | 0.00 [-0.04, 0.05] | 0.02 |
| | Success | 0.35 [0.19, 0.50]* | 0.35 | -0.07 [-0.32, 0.17] | 0.12 | 0.00 [-0.06, 0.05] | 0.03 |

*Note*. * denotes confidence interval does not include zero.