

**Moral Convictions as a Driving Force for Participation in Collective Action: The  
Moderating Role of Extraversion**

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### **Abstract**

The Russian military invasion of Ukraine has triggered people worldwide to participate in collective action, such as joining protests or signing petitions. The aim of this research was to investigate the relationship between moral conviction (the absolute opinion on right and wrong) and participation in collective action. Based on the idea that collective action typically requires involvement with larger groups, we propose extraversion to moderate the relationship between moral conviction and participation in collective action. We tested our hypotheses in the contexts of the “We Stand with Ukraine” and the “Black Lives Matter” movements ( $N = 234$ ). In line with our prediction, moral conviction was significantly related to participation in collective action. However, against our expectation, extraversion was positively related to participation in collective action. The hypothesized moderation effect of extraversion was not significant in the context of “We Stand with Ukraine” but was significant in the context of “Black Lives Matter”. The findings contribute to the literature in that they show that moral convictions energize and motivate individuals to engage in collective action and that extraversion may moderate this relationship. Thus, moral convictions have the power to drive social change.

*Keywords:* moral conviction, social activism, collective action, extraversion, personality trait

## **Moral Convictions as a Driving Force for Participation in Collective Action: The Moderating Role of Extraversion**

One hundred thousand in Berlin, 70.000 in Prague, 40.000 in Zurich – people across the world are on the streets protesting against the 2022 Russian military invasion of Ukraine<sup>1</sup> and are expressing their solidarity with affected Ukrainians (Hasselmann et al., 2022; Maeterlinck, 2022; VOA News, 2022). The hashtags #WeStandWithUkraine and #StopTheWar have gone viral on the social media platform Twitter (Twitter, 2022), and various fundraisers have been launched on Instagram raising not just awareness but also millions of euros of donations (Waddoups, 2022). People around the world are thus showing solidarity and concern as a reaction to Russia’s military invasion of Ukraine and the movement “We Stand with Ukraine” has been established.

Going on protests, spreading awareness, and expressing solidarity are all examples of engaging in collective action. Collective action can be defined as any action taken on behalf of a disadvantaged group to improve the group’s conditions and challenge perceived unjust intergroup relations (Kende et al., 2017; Van Zomeren et al., 2012). Social behaviors like participating in collective action have the capability of driving social change and research suggests that moral convictions, that is, absolute beliefs about right and wrong (Skitka et al., 2005) are a core motivation to undertake collective action (Van Zomeren, 2013). Particularly, people are willing to engage in collective actions that are aligned with moral convictions which “we stand for” as they validate “who we are” (Leal et al., 2020; Van Zomeren et al., 2018). However, we know little about whether personality traits may strengthen collective action participation driven by moral convictions. In the current research, we investigate

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<sup>1</sup> On February 24th, 2022, Russia invaded Ukraine, resulting in a military escalation that is now considered a war. It is the largest attack on a European state since the Second World War and has consequently caused the largest refugee movement within Europe since that war, with around 5 million Ukrainians having left the country after just two months of invasion (AlJazeera, 2022).

whether moral convictions relate to collective action participation and propose that the personality trait extraversion may moderate this relationship.

### **The Psychology of Moral Conviction**

Attitudes grounded in moral conviction (or simply moral convictions) are defined as fundamental beliefs which people hold that are rooted in a very clear understanding of right and wrong (Skitka et al., 2005). They are expressions of core values and thus can be seen as deeply integrated into who one is (i.e., identities; e.g., Van Zomeren et al., 2018). The domain theory of attitudes (Skitka et al., 2005) distinguishes between attitudes rooted in preference or convention, and morally convicted attitudes. Attitudes rooted in preference are essentially a matter of taste – they are subjective, and people are generally tolerant towards others that have different preferences on certain matters (e.g., “I oppose the Russian military invasion of Ukraine because it seems like what I should do.”). Conventional attitudes are rooted in norms, meaning people believe what other ingroup members tend to believe in (e.g., “I oppose the Russian military invasion of Ukraine because all my friends do it.”). The different types of attitudes are often related and confounded, as for instance a strong attitude about abortion may be conflated with a moral conviction about abortion because the issue is personally important to someone (Skitka & Bauman, 2008). Further, all attitudes can be strong but not all strong attitudes are grounded in moral conviction (e.g., “I oppose the Russian military invasion of Ukraine because it’s a matter of moral imperative”).

Moral convictions have unique characteristics. First, they have a perceived objectivity as well as universality attached to them (Skitka & Morgan, 2014). Previous research has shown that attitudes high in moral conviction are seen as universal facts or generalizable truths to the person – they are thus not malleable like the other types of attitudes (Van Bavel et al., 2012). Second, morally convicted attitudes are highly authority and peer independent. Despite conformity often being pressured and expected of individuals by society, individuals hold on to their moral standpoints (Hornsey et al., 2007). This resistance applies towards

authority, but also towards normative majority influence. It has been extensively researched that individuals tend to conform to majority group norms even when actually holding different opinions (Cialdini & Trost, 1998). When moral convictions are involved though, this normative majority influence no longer applies and people in fact prefer to distance themselves from the majority (Wright & Cullum, 2008). Third, individuals holding moral convictions about an issue feel obligated to act on them (Skitka et al., 2021). That is, they perceive to not have a choice when making attitudinally important decisions, but instead must decide and act in line with their moral conviction (Kouchaki et al., 2018). Further, the stronger these moral convictions are, the greater the perceived obligation to act on them (Sabudeco et al., 2018).

Moral convictions can thus predict social behaviors that have the ability to drive social change. Examples of such behaviors are participation in collective action (e.g., going on protests; Van Zomeren, 2013), engagement in prosocial behavior (e.g., volunteerism; Kende et al., 2017), or voting manners (e.g., intentions to vote; Skitka & Bauman, 2008). As these behaviors have wide reaching consequences in that they are capable of steering society into certain directions (i.e., people have moral convictions about issues like tuition fees, genetically modified meat, or abortions; Skitka & Morgan, 2014), moral convictions drive social change not just by influencing an individual or a group, but societies.

### **Moral Convictions and Participation in Collective Action**

Given that moral convictions inherently motivate people to act on behalf of such convictions (Sabucedo et al., 2018), not surprisingly, moral convictions are a recent key predictor of collective action participation (Van Zomeren, 2013). The literature suggests that when people are faced with an unjust situation or a breach of their morals and values (e.g., the invasion of a country), they feel emboldened and motivated to act on behalf of their beliefs (Kouchaki et al., 2018; Skitka et al., 2021). Van Zomeren et al. (2018) and Leal et al. (2020) argue and show that people then feel motivated to partake in collective action to protect their

morals and values ("what we stand for") and their identity ("who we are"). Participating in collective action on behalf of one's moral convictions is thus a means to reinforce one's convictions and commitment to a social cause.

Indeed, various studies show that moral conviction predicts engagement in collective action (e.g., Agostini & Van Zomeren, 2012; Van Zomeren et al., 2012; Van Zomeren et al., 2018, Pauls et al., 2022). Van Zomeren et al. (2018) describe participation in collective action as the manifestation of people's moral convictions – that is their abstract beliefs about right and wrong (i.e., moral convictions) becoming tangible and concrete behaviors (i.e., participation in collective action). This reasoning also explains why participation in collective action is not limited to one's own group but can extend to outgroups. Other than past established motivators for collective action (e.g., identity), moral conviction does not emphasize a common social identity as a driving force, but the moral principles and beliefs the group stands for (Van Zomeren et al., 2018). In line with past research, we aim to replicate the relationship between moral conviction and collective action participation in this study.

### **The Moderating Role of Extraversion**

Even though there is growing evidence showing that moral conviction predicts engagement in collective action (e.g., Agostini & Van Zomeren, 2021; Van Zomeren et al., 2012; Van Zomeren, 2013), we know little about the conditions under which this effect can occur. Given that for engaging in collective action, especially going on protests, it is required to be around others and broadcast a social appearance (i.e., sociability), we propose that the personality trait *extraversion* may play a moderating role. Extraversion is mainly characterized by the engagement in social endeavors – typical characteristics include talkativeness, liveliness, and outgoingness (Ashton & Lee, 2007; Ashton, 2013). A key construct to consider is social boldness, which describes how comfortable and confident someone feels in social situations (Lee & Ashton, 2018). Individuals who score high in social boldness do not hesitate to speak up in front of groups or approach strangers. These behaviors

highlight the social group nature that individuals high in extraversion endorse which increases their desire for interpersonal interactions (Alper & Yilmaz, 2019).

It is likely that individuals high in extraversion are more willing to express their moral convictions than those low in extraversion. Alper and Yilmaz (2019) found that highly extraverted individuals endorsed more moral foundations (i.e., found justice and fairness more morally important) than less extraverted individuals did. Another study found that individuals high in extraversion show stronger attitudes toward a target object and are more willing to advocate it (Tang et al., 2017). Thus, these findings indicate that the personality trait of extraversion has the potential to influence the expression of one's moral convictions, such as through collective action participation, which is why we will investigate its moderating role in this research.

Particularly, we will investigate whether the relationship between moral conviction and participation in collective action is stronger for highly extraverted individuals than for less extraverted ones. Indeed, collective action usually involves engagement with groups (e.g., going on protests) which highly extraverted individuals tend to feel more confident in (Haddock & Rutkowski, 2014). Less extraverted individuals however may perceive the act of joining a larger gathering intimidating. Thus, highly extraverted individuals may feel more socially comfortable to express their moral convictions by taking collective action on behalf of them.

Moreover, we expect there to be no relationship between extraversion and collective action participation. No research to our knowledge investigated personality differences regarding collective action participation. Further, research shows engagement in collective action has a moral component as it is driven by moral concerns about certain issues (Van Zomeren, 2013), which is why collective action participation should not stem from being extraverted alone.

## **Present Study**



The present study aims to investigate under which conditions moral convictions are associated with participation in collective action. For this purpose, we will test the following hypotheses (see Figure 1). First, we predict that moral conviction is positively associated with collective action participation. Second, we expect that extraversion is not associated with collective action participation. Third, we hypothesize that extraversion moderates the relationship between moral convictions and collective action participation. That is, for highly extraverted participants the relationship between moral conviction and collective action participation is stronger than for less extraverted ones.

We tested this model in the context of two social movements (i.e., We Stand with Ukraine and Black Lives Matter) with the aim of replicating the findings in another context. Particularly, in the context of We Stand with Ukraine, we used the Russian military invasion of Ukraine as well as war immigration as moral issues, whereas in the Black Lives Matter context the issue of moral conviction was racial inequality.

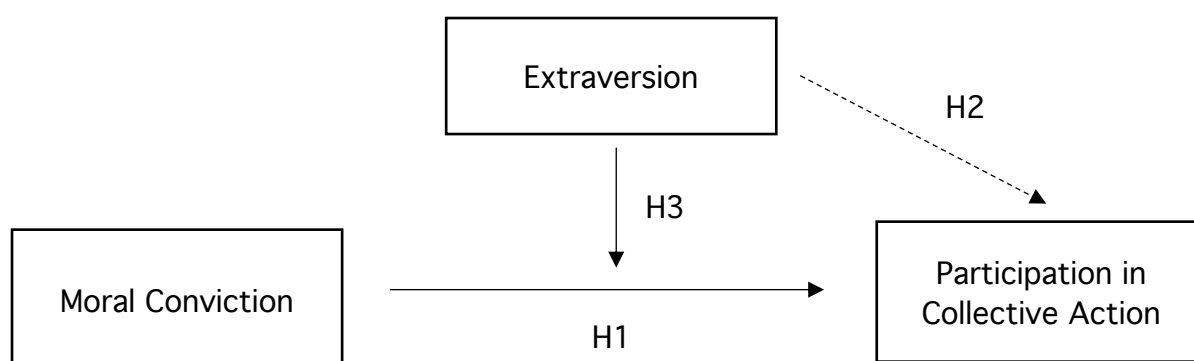
## Method

### Participants and Design

A total of 234 first-year Psychology Bachelor students at the University of Groningen participated in the online study in exchange for 0.6 course credits. The sample consisted of 56

### Figure 1

*Research Model and Hypotheses: The Relationship Between Moral Conviction and Participation in Collective Action, and The Moderating Role of Extraversion*



males, 176 females, and 2 did not indicate their gender, ranging in age between 18 to 27 ( $M = 20.06$ ,  $SD = 1.83$ ). Of all participants, 98 were recruited from the English Psychology program and 135 were recruited from the Dutch Psychology program. We used a correlational study design, in which moral conviction was the independent variable, extraversion the moderator, and participation in collective action the dependent variable.

## **Procedure**

The study was approved by the Ethical Committee for Psychology (ECP) of the University of Groningen on April 19th, 2022. Participants were recruited through the internal university participants pool of first year psychology students at the University of Groningen (i.e., SONA), and completed the study online via Qualtrics. To participate in this study, participants were first asked to give informed consent and permission to collect and use/treat their data in compliance with the GDPR (General Data Protection Regulation) guidelines.

In the first part of the study, participants were asked about their opinions on several societal issues, namely Russian military invasion of Ukraine, war immigration, racial inequality, and human-made climate change. Participants filled out a questionnaire about their attitudes (e.g., moral conviction) toward each one of these four issues. The target issues of moral conviction were the Russian military invasion of Ukraine, war immigration, and racial inequality, the other issue was a filler issue. Next, participants were presented with two social movement contexts, namely “We Stand with Ukraine”, and “Black Lives Matter”, and filled out some measures on social activism (e.g., collective action) in these contexts. In the third part of the study, participants completed a questionnaire that included a measure of extraversion and other variables that were not relevant for the hypotheses of this study. Finally, participants provided some socio-demographic information (i.e., age, gender, ethnicity<sup>2</sup>), and were debriefed and thanked for their participation.

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<sup>2</sup> Due to an error in how the question was framed we did not obtain valid data for this variable.

## Measures

### *Moral Convictions*

First, we measured participants' general attitude toward the target issues of moral conviction. To assess general attitude, participants were asked to indicate the extent to which they supported or opposed the Russian military invasion of Ukraine ( $M = 6.84$ ,  $SD = .63$ ), war immigration ( $M = 5.98$ ,  $SD = 1.19$ ), and racial inequality ( $M = 6.56$ ,  $SD = 1.06$ ) on a 7-point Likert scale (1 = *strongly oppose* to 7 = *strongly support*). To assess moral conviction about the Russian military invasion of Ukraine, war immigration, and racial inequality (Skitka et al., 2005), participants indicated how much their opinion on each of these moral issues is “a reflection of their core moral beliefs and convictions”, “connected to their beliefs about fundamental right and wrong”, and “based on moral principle” (Russian military invasion of Ukraine:  $\alpha = .91$ ;  $M = 5.45$ ,  $SD = 1.78$ ; war immigration:  $\alpha = .88$ ;  $M = 4.65$ ,  $SD = 1.17$ ; racial inequality:  $\alpha = .95$ ;  $M = 5.85$ ,  $SD = 1.56$ ) on a 7-point Likert scale (1 = *not at all* to 7 = *very much*).

### *Participation in Collective Action*

To assess participants' engagement in collective action, we measured their willingness to participate in a variety of collective behaviors in the contexts of We Stand with Ukraine and Black Lives Matter (adapted from Leal et al., 2020). In the former context, participants reported their willingness to “participate in an upcoming protest against the Russian invasion of Ukraine”, “share some information about the ongoing war in Ukraine on my social media”, “change my profile picture on my social media to a Ukraine flag in order to show my support for Ukraine”, “hang up a Ukrainian flag in front of my house to show support for Ukraine”, and “sign a petition for allowing more Ukrainian refugees to come to Groningen” ( $\alpha = .85$ ;  $M = 4.01$ ,  $SD = 1.57$ ). In the latter context, participants reported their willingness to “participate in an upcoming Black Lives Matter protest”, “share an informational post about the Black Lives Matter movement on social media”, and “sign a petition to support Black people’s

rights” ( $\alpha = 0.82$ ;  $M = 4.73$ ,  $SD = 1.72$ ). Answers were given on a 7-point Likert scale (1 = *not at all* to 7 = *very much*). We averaged the items and created a composite score for collective action participation.

### ***Extraversion***

To measure extraversion, we used four items of the social boldness subscale of the extraversion scale of the HEXACO Personality Inventory - Revised (Lee & Ashton, 2018). Participants were asked to indicate their degree of agreement on the following items: “I rarely express my opinions in group meetings.” (reverse coded), “In social situations, I am usually the one who makes the first move.”, “I tend to feel quite self-conscious when speaking in front of a group of people.” (reverse coded), and “When I’m in a group of people, I am often the one who speaks on behalf of the group.” ( $\alpha = 0.74$ ;  $M = 2.96$ ,  $SD = 0.77$ ), by using a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*).

## **Results**

### **Preliminary Analyses**

We first calculated all means, standard deviations, scale reliabilities, as well as correlations (see Table 1). All variables were significantly and positively correlated except for extraversion which was not significantly correlated to any of the moral conviction or collective action items.

Before testing the hypotheses, appropriate assumption checks were conducted which showed that all assumptions were met (see Appendix A).

### **Data Analysis Strategy**

We first centered the independent variable as well as the moderator and computed their interaction. Model 1 tests our hypotheses in the context of We Stand with Ukraine, where moral conviction about the Russian military invasion of Ukraine, extraversion, and their interaction were inserted as independent variables and collective action in the We Stand with Ukraine context was the dependent variable. To explore whether our findings can be

**Table 1***Means, Standard Deviations, and Correlations*

	$\alpha$	$\mu^a$	s	1	2	3	4	5
1 MC <sup>b</sup> Invasion	.913	5.45	1.78	1				
2 MC <sup>b</sup> Immigration	.882	5.65	1.17	.429**	1			
3 MC <sup>b</sup> Racial Inequal.	.948	5.85	1.56	.602**	.547**	1		
4 Extraversion	.74	2.96	.77	-.038	.101	-.032	1	
5 CA <sup>c</sup> Ukraine	.853	4.01	1.57	.194**	.244**	.259**	.168*	1
6 CA <sup>c</sup> BLM	.816	4.73	1.72	.212**	.295**	.352**	.155*	.802**

*Note:* This table shows the reliability analyses, means, standard deviations, and correlations of all variables relevant for the hypotheses testing of this study ( $N = 234$ ).

<sup>a</sup> All variables were assessed on a 7-point Likert scale ( $1 = \text{not at all}$  to  $7 = \text{very much}$ ), except for Extraversion which was assessed on a 5-point Likert scale ( $1 = \text{strongly disagree}$  to  $5 = \text{strongly agree}$ ).

<sup>b</sup> MC = Moral Conviction

<sup>c</sup> CA = Collective Action Participation

\*  $p < .01$ , \*\*  $p < .05$

replicated to a different moral issue, Model 2 tests our hypotheses in the same context as Model 1, but includes moral conviction about war immigration, extraversion, and their interaction as independent variables. Collective action participation in the We Stand with Ukraine movement remained the dependent variable. Model 3 aims to replicate the findings in the Black Lives Matter context by using moral conviction about racial inequality, extraversion, and their interaction as independent variables and participation in collective action in the Black Lives Matter movement as the dependent variable. A post-hoc power analysis was conducted using G\*Power (Faul et al., 2007) to calculate the study's

retrospective power using a linear multiple regression, a sample size of 234, and an alpha of .05. Results show that we had power for all possible effect sizes (see Figure 2 in Appendix B).

### **Hypothesis Testing in the Context of the We Stand with Ukraine Movement**

To test Model 1, we conducted a multiple linear regression. The overall fit of Model 1 was significant ( $F(3, 230) = 5.989, p < .001$ ), and the variance in collective action participation explained by the model was  $R^2 = .072$ . Hypothesis 1 stated that moral conviction is positively associated with participation in collective action. In line with our hypothesis, we found a positive and significant association between the two variables ( $\beta = .209, t(233) = 3.260, p = .001, 95\% CI [.07, .30], f^2 = .04$ ). Hypothesis 2 stated that extraversion would not be related to participation in collective action. Against our expectations, we found a positive and significant association between the two variables ( $\beta = .191, t(233) = 2.921, p = .004, 95\% CI [.13, .65], f^2 = .04$ ), which means we could not confirm Hypothesis 2. Hypothesis 3 suggested extraversion as a moderator in the relationship between moral conviction and participation in collective action. The expected interaction effect was however not significant ( $\beta = -.067, t(233) = -1.025, p = .306, 95\% CI [-.25, .08], f^2 = .00$ ), which is why Hypothesis 3 could not be supported.

To test Model 2, another multiple linear regression was conducted. The proposed model had an overall significant fit ( $F(3, 230) = 6.853, p < .001$ ) and the variance in collective action participation explained by it was  $R^2 = .082$ . The analysis revealed a positive and significant association between moral conviction and participation in collective action ( $\beta = .220, t(233) = 3.404, p < .001, 95\% CI [.12, .47], f^2 = .02$ ), which implies a successful replication to the moral issue of war immigration, thus offering converging validity. As in Model 1, we also found a positive and significant association between extraversion and participation in collective action ( $\beta = .148, t(233) = 2.317, p = .021, 95\% CI [.05, .56], f^2 = .05$ ). Further, the interaction effect was still not significant ( $\beta = -.045, t(233) = -.693, p = .489, 95\% CI [-.28, .13], f^2 = .00$ ), implying that also for this moral issue, extraversion does

not significantly moderate the relationship between moral conviction and participation in collective action.

### **Additional Replication of Findings in the Context of the Black Lives Matter Movement**

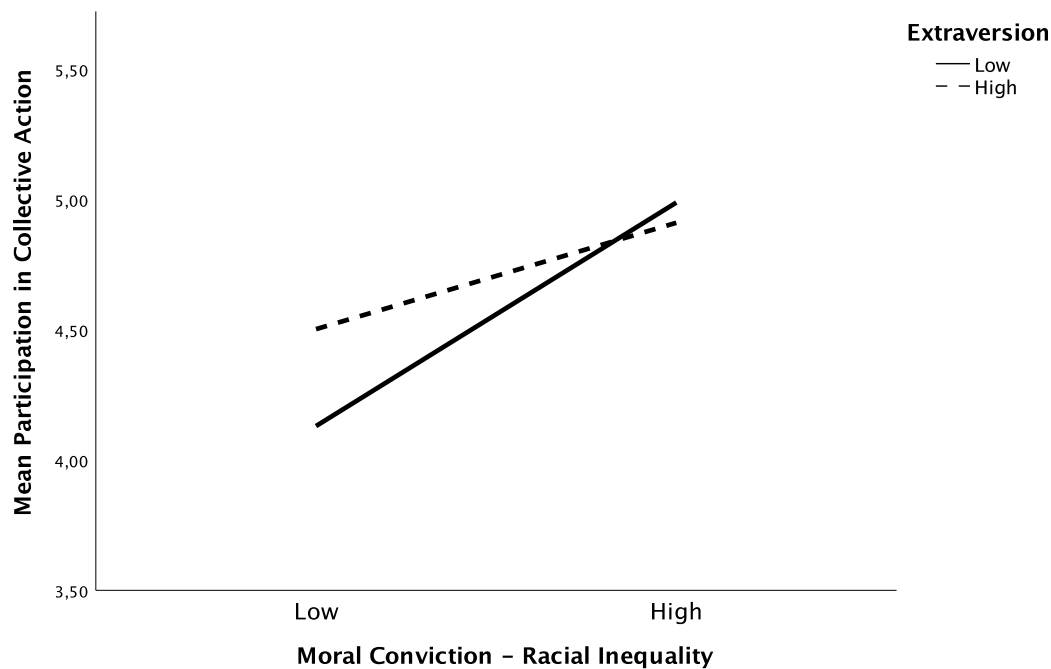
To take the replication attempt one step further, we explored our hypotheses in a different context, that is, the Black Lives Matter movement (Model 3). Again, a multiple linear regression was conducted ( $F(3, 230) = 16.063, p < .001; R^2 = .173$ ). In Model 3, we found a positive and significant association between moral conviction and participation in collective action ( $\beta = .388, t(233) = 6.335, p < .001, 95\% CI [.30, .56], f^2 = .04$ ), again offering converging validity for our findings and thus increasing the robustness of the relationship between the two variables. Further, the regression shows a positive and significant association between extraversion and participation in collective action ( $\beta = .198, t(233) = 3.227, p = .001, 95\% CI [.17, .71], f^2 = .17$ ), which is in line with Model 1 and Model 2, but against what we expected in Hypothesis 2. Lastly, the interaction effect in Model 3 was significant ( $\beta = -.154, t(233) = -2.469, p = .014, 95\% CI [-.47, -.05], f^2 = .02$ ). We then conducted a simple slopes analysis (Figure 3) and found that for highly extraverted individuals the relationship between moral conviction and participation in collective action is positive and significant ( $\beta = .207, t(233) = 2.419, p = .016, 95\% CI [.04, .42], f^2 = .02$ ). Further, for individuals low in extraversion, the relationship is also positive and significant, but stronger than for highly extraverted individuals ( $\beta = .570, t(233) = 5.426, p < .001, 95\% CI [.40, .86], f^2 = .12$ ). Hypothesis 3 could thus not be confirmed, as we predicted the relationship between moral conviction and collective action participation to be stronger for highly extraverted individuals. An overall comparison of three the investigated models and their standardized regression coefficients can be found in Table 2.

### **Discussion**

The present study aimed at examining the relationship between moral convictions and participation in collective action and the moderating role of extraversion. We hypothesized a

**Figure 3**

*Simple Slopes Analysis: The Interaction Effect Between Moral Conviction and Extraversion on Participation in Collective Action*



positive relationship between moral conviction and participation in collective action (Hypothesis 1), but no relationship between extraversion and participation in collective action (Hypothesis 2). Further, we predicted a moderation effect of extraversion on the relationship between moral conviction and collective action participation, with the relationship being stronger for individuals scoring high on extraversion than for those scoring low on it (Hypothesis 3). We tested these hypotheses in the context of the We Stand with Ukraine Movement with the issues of moral conviction being the Russian military invasion of Ukraine and war immigration, and in the context of the Black Lives Matter movement with the issue of moral conviction being racial inequality. This is because we aimed to replicate the findings across different moral issues and contexts.

As expected, we consistently found a significant positive association between moral conviction and participation in collective action across both contexts. Against our expectation



**Table 2***Comparison of Model 1, Model 2, and Model 3*

Dependent Variable	CA <sup>a</sup> – Ukraine	CA <sup>a</sup> – Ukraine	CA <sup>a</sup> – BLM <sup>c</sup>
	Model 1	Model 2	Model 3
Independent Variables			
MC <sup>b</sup> Invasion	.001**		
MC <sup>b</sup> Immigration		.220**	
MC <sup>b</sup> Racial Equality			.388**
Extraversion	.004*	.148*	.198*
MC <sup>b</sup> Invasion x Extraversion	.306		
MC <sup>b</sup> Immigration x Extraversion		.489	
MC <sup>b</sup> Racial Inequal. x Extraversion			-.154*
R <sup>2</sup>	.072	.082	.173
Adjusted R <sup>2</sup>	.060	.07	.162
F	5.989**	6.853**	16.063**

*Note.* This table shows a comparison of the standardized regression coefficients as well as overall model fit statistics of Model 1, Model 2, and Model 3 ( $N = 234$ ).

<sup>a</sup> CA = Collective Action Participation

<sup>b</sup> MC = Moral Conviction

<sup>c</sup> BLM = Black Lives Matter

\*  $p < .05$ , \*\*  $p < .001$

however, we consistently found a significant positive relationship between extraversion and participation in collective action. We found mixed evidence for our moderation hypothesis. In the We Stand with Ukraine context, we consistently did not find support for our moderation

hypothesis, as the interaction effect was not significant, implying that extraversion does not moderate the relationship between moral conviction and participation in collective action in this context. However, in the Black Lives Matter context, extraversion was found to moderate the relationship between moral conviction and participation in collective action. Results indicate that the relationship between moral conviction and collective action participation is stronger for less extraverted individuals than for highly extraverted individuals.

### **Theoretical Implications**

We consider our research to have several theoretical implications as well as contributions to the existing literature on moral convictions, collective action, and extraversion. First, past research has established a predictive role of moral convictions on participation in collective action (e.g., Agostini & Van Zomeren, 2021; Van Zomeren et al., 2012; Van Zomeren, 2013; Van Zomeren et al., 2018). In line with the literature, we successfully replicated the association between moral conviction and collective action participation. We were able to support the robustness of this relationship, as we found that it was positive and significant across both investigated contexts (i.e., We Stand with Ukraine and Black Lives Matter). This adds not just to the robustness of the relationship, but also suggests generalizability, as our study was the first to investigate moral convictions in connection with collective action participation in these two specific contexts. Further, as these two contexts differ in regard to their embeddedness in people's lives (i.e., the Black Lives Matter context being an established movement for two years already whereas the We Stand with Ukraine movement being only four months old), finding a relationship between moral convictions and collective action participation adds to the effect's external validity, as this suggests that the relationship persists despite movement characteristics such as duration of existence.

Second, the fact that we unexpectedly found a significant positive association between extraversion and participation in collective action contributes to the research on collective

action and is interesting in itself. It must be taken into account that participants in our sample already had highly moralized convictions about the issues presented, which is indicated by very high mean scores on all moral conviction measures (refer back to Table 1). Thus, given that our participants score high on moral conviction, extraversion in a sense facilitates the way they engage in collective action. Further, the existence of the relationship between extraversion and collective action participation could be due to normative forces, i.e., descriptive norms. Participating in collective action would then not be related to moral concerns about an issue but could also be explained by the socializing nature of extraverted individuals to join groups and align with others. Future research should replicate these findings with a moral issue that has more variance as our findings are concentrated on a sample which scores high on moral convictions. Nevertheless, our finding of extraversion being positively related to participation in collective action across both contexts poses initial evidence that extraversion in itself may be a predictor of collective action participation.

Third, investigating the role of extraversion in the association between moral conviction and participation in collective action is a new contribution to the existing literature, as up to now, no other study to our knowledge has researched this effect. For the proposed moderating effect of extraversion, we found mixed results – the interaction effect was not significant in the We Stand with Ukraine context but was significant in the Black Lives Matter context. Against our expectation, however, when the interaction effect was significant, the relationship between moral conviction and collective action participation was stronger for those less extraverted than for those highly extraverted. We reason that this may be due to moral convictions opening the door, i.e., making it possible, for less extraverted individuals to feel the motivation to take action, that is to participate in collective action. Moreover, we do not have an indication of how many minority members our sample included which could have had an influence on their responses on the items targeting the Black Lives Matter movement.

A possible explanation for our finding of a nonsignificant moderation effect of extraversion in the context of We Stand with Ukraine but a significant one in the context of Black Lives Matter could be that the Ukrainian context at the time of data collection was highly salient in participants' lives. This may have made participants more aware of their moral convictions regarding war invasions, as they are currently surrounded by and confronted with this specific topic regularly in their everyday lives. Moral convictions thus may have an extraordinarily strong power to energize individuals to participate in collective action, regardless of their level of extraversion. Contrary, the Black Lives Matter movement had its peak in regard to salience in people's lives in mid 2020, when George Floyd was killed by police (Schneider, 2020). Black Lives Matter is thus a rather established movement compared to We Stand with Ukraine which leads to participants being aware of what to expect should they participate in any collective action within this context. Additionally, the Black Lives Matter movement is predominantly American based, whereas the We Stand with Ukraine movement is more relatable to students studying in the Netherlands, as it is a European-centered matter. The differences in findings may thus be due to the selection of contexts mainly, as the methodological approaches (e.g., the Cronbach's alpha of the collective action scales) were the same.

### **Strengths, Limitations, and Future Research**

Our study employs several strengths that should be noted. First, we used real-life contexts to investigate the relationship between moral conviction and collective action participation. Especially the context of We Stand with Ukraine was a highly salient topic in participants' lives at the time of data collection. As a result, we were able to include customized item measurements for collective action participation, which we tailored to very specific and tangible examples in both contexts. This adds to the study's ecological validity.

Another strength of our research is that we tested our hypotheses in two contexts making use of three moral issues. This allows us to suggest robustness of the relationship

between moral conviction and collective action participation, as the two were consistently significantly positively associated across all contexts and moral issues. Nevertheless, future research should expand the established association between moral conviction and collective action participation to yet other contexts to increase generalizability, especially since we found the moderation effect of extraversion only to be present in the Black Lives Matter context. As mentioned earlier, research should also focus on moral issues that employ greater variance in people's moral conviction.

Like any study, our research also has its potential limitations. One of them is the sample, as it consisted of predominantly female first year psychology students, i.e., WEIRD participants. This homogenous sample does not allow for much generalizability when it comes to the interpretation of the results. Additionally, psychology students specifically have been shown to have high levels of empathy compared to other student populations (Wilczek-Rużyczka & Kupczyk, 2021), which may have influenced the findings, as empathy has been linked to moral conviction in past research (Davis & Carlo, 2020). Thus, future research should focus on generalizing results to more diverse samples, including different academic fields, education backgrounds, ages, ethnicities, as well as cultures.

A further potential limitation is the way we measured extraversion. We used the HEXACO personality inventory (Lee & Ashton, 2018), but only the subscale which concerns social boldness. Thus, we did not assess extraversion in all its facets, but only concentrated on one key characteristic. The decision to measure extraversion using only the four social boldness items was deliberately due to the length of the study and due to social boldness specifically being highly related to group settings (i.e., collective action in the form of protests). Future research should assess extraversion taking all its subscales of the HEXACO personality inventory into account to grasp the personality trait as a whole. Moreover, it might be interesting to look at whether similar results are found when assessing extraversion according to a different personality inventory, e.g., the Big 5 inventory.

Another possible limitation worth mentioning concerns the way we measured collective action participation. We assessed intentions to participate in collective action, not the behavioral act of participating in the collective action itself. This conceptualization may not realistically portrait participation in collective action. Although intentions have been shown to predict behavior quite well (Ajzen, 1991), a more precise and ecologically valid measure would have been to assess actual past participation in collective action, as for instance was done in the study by Leal et al. (2020), where participants were asked how often they had participated in a number of behavioral collective actions. Future research should investigate the relation between intentions to participate in collective action and actual collective action participation.

Finally, to examine the conditions under which the association between moral conviction and collective action can occur, future research should look into further possible moderators that may influence the association. These could target for instance other personality traits that are part of the HEXACO personality inventory or individual characteristics that allow us to place a person into society, e.g., political orientation or socio-economic status. Additionally, future research could investigate possible mediators that can explain why the relationship between moral conviction and participation in collective action exists, such as the role of guilt, group-based anger, and politicized identification.

### **Conclusion**

Moral convictions and collective action participation have the power to drive social change. Yet, we know little about the conditions under which moral convictions and collective action participation are related. We thus investigated the relationship between moral convictions and participation in collective action in an attempt to replicate past research and further focused on the moderating role of extraversion. We found a significant positive association between moral conviction and collective action participation consistently across both the We Stand with Ukraine movement as well as the Black Lives Matter movement.

However, we found a moderating role of extraversion only in the Black Lives Matter context. The study thus contributes to the existing literature on social change in that it replicates the relationship between moral convictions and collective action participation and introduces a potential moderator that has been shown to be of significance in the context of Black Lives Matter. By this, our research may inspire the road to broadly understanding the relationship between moral convictions and participation in collective action. Altogether, moral convictions have an energizing and motivating effect on individuals to engage in collective action and thus have the power to drive social change.

## References

- Agostini, M., & Van Zomeren, M. (2021). Toward a comprehensive and potentially cross-cultural model of why people engage in collective action: A quantitative research synthesis of four motivations and structural constraints. *Psychological Bulletin*, 147(7), 667–700. <https://doi.org/10.1037/bul0000256>
- Ajzen, I. (1991). Theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alper, S., & Yilmaz, O. (2019). How is the Big Five related to moral and political convictions: The moderating role of the WEIRDness of the culture. *Personality and Individual Differences*, 145, 32-38. <https://doi.org/10.1016/j.paid.2019.03.018>.
- Aramovich, N. P., Lytle, B. L., & Skitka, L. J. (2012). Opposing torture: Moral conviction and resistance to majority influence. *Social Influence*, 7(1), 21–34. <https://doi.org/10.1080/15534510.2011.640199>
- Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, 11(2), 150-166. <https://doi.org/10.1177/1088868306294907>
- Ashton, M. C. (2013). *Individual Differences and Personality* (2<sup>nd</sup> ed.). Elsevier Science & Technology.
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity, and compliance. In Fiske, S. T., Gilbert, D. T., & Lindzey, G. (Eds.) *The handbook of social psychology* (pp. 151-192). Wiley.
- Davis, A. N., & Carlo, G. (2020). Maternal warmth and prosocial behaviors among low-SES adolescents: Considering interactions between empathy and moral conviction. *Journal of Moral Education*, 49(2), 226–240. <https://doiorg.proxyub.rug.nl/10.1080/03057240.2019.1573723>



- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175–191. <https://doi.org/10.3758/BF03193146>
- Haddock, A. D., & Rutkowski, A. P. (2014). *Psychology of extraversion*. Nova Science Publishers, Inc.
- Hasselmann, J., Otterbein, L., & Salmen, I. (2022, March 13). Zweite Großdemo gegen den Ukraine-Krieg in Berlin – und weitere Proteste. *Der Tagesspiegel*.  
<https://www.tagesspiegel.de/berlin/100-000-teilnehmer-am-sonntag-erwartet-zweite-grossdemo-gegen-den-ukraine-krieg-in-berlin-und-weitere-proteste/28157918.html>
- Hornsey, M. J., Smith, J. R., & Begg, D. (2007). Effects of norms among those with moral conviction: Counter-conformity emerges on intentions but not behaviors. *Social Influence*, 2(4), 244–268. <https://doi.org/10.1080/15534510701476500>
- Leal, A., Van Zomeren, M., González, R., Gordijn, E., Tagar, M. R., Álvarez, B., Frigolett, C., & Halperin, E. (2020). *How participation in collective action drives moralization*. Paper presented at Justice and Morality Pre-conference, Society for Personality and Social Psychology (SPSP), New Orleans, United States.
- Lee, K., & Ashton, M. C. (2018). Psychometric properties of the HEXACO-100. *SAGE Journals*, 25(5), 543–556. <https://doi.org/10.1177/1073191116659134>
- Kende, A., Lantos, N. A., Belinszky, A., Csaba, S., & Lukács, Z. A. (2017). The politicized motivations of volunteers in the refugee crisis: Intergroup helping as the means to achieve social change. *Journal of Social and Political Psychology*, 5(1), 260–281.  
<https://doi.org/10.5964/jspp.v5i1.642>
- Kouchaki, M., Smith, I. H., & Savani, K. (2018). Does deciding among morally relevant options feel like making a choice? How morality constrains people's sense of choice. *Journal of Personality and Social Psychology*, 115(5), 788–804.  
<https://doi.org/10.1037/pspa0000128>

- Maeterlinck, N. (2022, March 6). 'Russians, go home' Pro-Ukraine protests sweep Europe. *France 24*. <https://www.france24.com/en/live-news/20220306-russians-go-home-pro-ukraine-protests-sweep-europe>
- Pauls, I. L., Shuman, E., Van Zomeren, M., Saguy, T., & Halperin, E. (2022). Does crossing a moral line justify collective means? Explaining how a perceived moral violation triggers normative and nonnormative forms of collective action. *European Journal of Social Psychology*, 52(1), 105-123. <https://doi-org.proxy-ub.rug.nl/10.1002/ejsp.2818>
- Protests Across Europe Show Solidarity with Ukraine, Demand End to Invasion*. (2022, March 5). VOA News. <https://www.voanews.com/a/protests-across-europe-show-solidarity-with-ukraine-demand-end-to-invasion-/6471802.html>
- Sabucedo, J.-M., Dono, M., Alzate, M., & Seoane, G. (2018). The importance of protesters' morals: Moral obligation as a key variable to understand collective action. *Frontiers in Psychology*, 9, 418–418. <https://doi.org/10.3389/fpsyg.2018.00418>
- Schneider, N. (2020). Black lives matter: The (trans)local movement for black lives in germany. *Kirchliche Zeitgeschichte*, 33(1), 72–88. <https://doi.org/10.13109/kize.2020.33.1.72>
- Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology*, 88(6), 895–917. <https://doi.org/10.1037/0022-3514.88.6.895>
- Skitka, L. J., & Bauman, C. W. (2008). Moral conviction and political engagement. *Political Psychology*, 29(1), 29-54. <https://doi.org/10.1111/j.1467-9221.2007.00611.x>
- Skitka, L. J., & Morgan, G. S. (2014). The social and political implications of moral conviction. *Advances in Political Psychology*, 35(1), 95-110. <https://doi.org/10.1111/pops.12166>

- Skitka, L. J., Hanson, B. E., Morgan, G. S., & Wineski, D. C. (2021). The psychology of moral conviction. *Annual Review of Psychology*, 72, 347–366.  
<https://doi.org/10.1146/annurev-psych-063020-030612>
- Tetlock, P. (2002). Social functionalist frameworks for judgment and choice: Intuitive politicians, theologians, and prosecutors. *Psychological Review*, 109(3), 451–471.  
<https://doi.org/10.1037//0033-295X.109.3.451>
- Twitter. (Retrieved 2022, March 15). <https://twitter.com/explore>
- UN: Over 5 million people have fled Ukraine since Russia invasion. (2022, April 20). AlJazeera. <https://www.aljazeera.com/news/2022/4/20/more-than-5-million-ukrainians-have-fled-since-russian-invasion>
- Van Bavel, J. J., Packer, D. J., Haas, I. J., & Cunningham, W. A. (2012). The importance of moral construal: Moral versus non-moral construal elicits faster, more extreme, universal evaluations of the same actions. *PLoS One*, 7(11): e48693.  
<https://doi.org/10.1371/journal.pone.0048693>
- Van Zomeren, M., Postmes, T., & Spears, R. (2012). On conviction's collective consequences: Integrating moral conviction with the social identity model of collective action. *British Journal of Social Psychology*, 51(1), 52–71.  
<https://doi.org/10.1111/j.2044-8309.2010.02000.x>
- Van Zomeren, M. (2013). Four core social-psychological motivations to undertake collective action. *Social and Personality Psychology Compass*, 7(6), 378–388.  
<https://doi.org/10.1111/spc3.12031>
- Van Zomeren, M., Kutlaca, M., & Turner-Zwinkels, F. (2018). Integrating who “we” are with what “we” (will not) stand for: A further extension of the social identity model of collective action. *European Review of Social Psychology*, 29(1), 122–160,  
<https://doi.org/10.1080/10463283.2018.1479347>

Vaughan-Johnston, T. I., MacGregor, K. E., Fabrigar, L. R., Evraire, L. E., & Wasylkiw, L.

(2021). Extraversion as a moderator of the efficacy of self-esteem maintenance strategies. *Personality and Social Psychology Bulletin*, 47(1), 131–145. <https://doi-org.proxy-ub.rug.nl/10.1177/0146167220921713>

Waddoups, R. (2022, March 3). On Instagram, artists, and designers stage auctions to support Ukraine. *Surface*. <https://www.surfacemag.com/articles/ukraine-instagram-design-auctions/>

Wilczek-Rużyczka, E., & Kupczyk, M. (2021). Level of empathy and severity of psychopathic traits in medical, law and psychology students. *Acta Neuropsychologica*, 19(4), 411–426. <https://doi-org.proxy-ub.rug.nl/10.5604/01.3001.0015.4618>

Wright, J. C., Cullum, J., & Schwab, N. (2008). The cognitive and affective dimensions of moral conviction: Implications for attitudinal and behavioral measures of interpersonal tolerance. *Personality & Social Psychology Bulletin*, 34(11), 1461–76. <https://doi.org/10.1177/0146167208322557>

## Appendix A

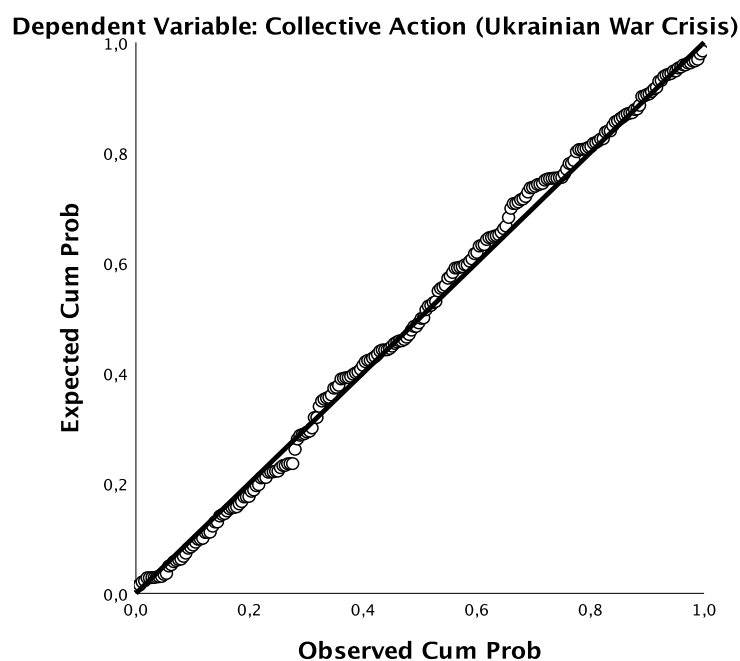
### Assumption Checks

#### ***Model 1: Moral Conviction About Russian Military Invasion of Ukraine (IV), Collective Action Participation in We Stand with Ukraine (DV), and Extraversion (Moderator)***

An analysis of standard residuals was conducted which indicated that the data contained no outliers (*Std. Residual Min* = -2.22, *Std. Residual Max* = 2.15). To assess normality, a normal P-P plot was constructed which allowed us to confirm this assumption (Figure 4). A scatterplot of the standardized residuals showed that the assumptions of homoscedasticity as well as linearity were met (Figure 5). Tests to check whether the data met the assumption of collinearity showed that multicollinearity was not a concern (*Moral Conviction*, *Tolerance* = .98, *VIF* = 1.02; *Extraversion*, *Tolerance* = .95, *VIF* = 1.06; *Interaction*, *Tolerance* = .93, *VIF* = 1.07). Additionally, there was independence of the residuals, as assessed by a Durbin-Watson statistic of 1.98.

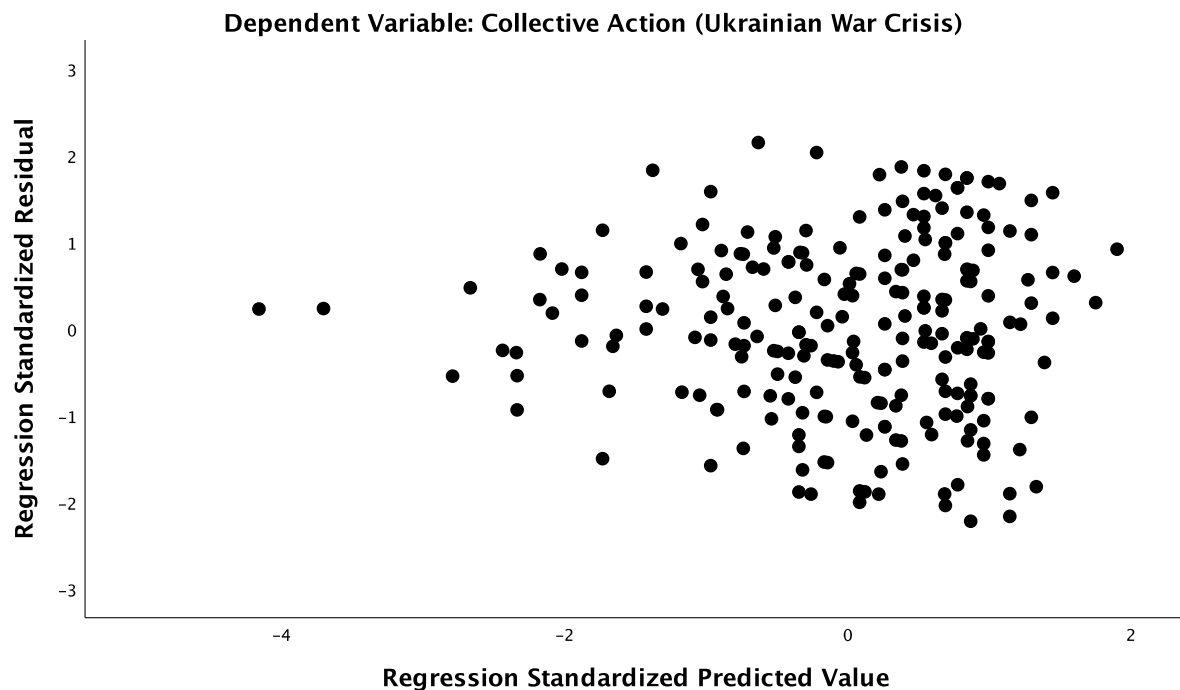
**Figure 4**

*Normal P-P Plot to Assess Normality (Model 1)*



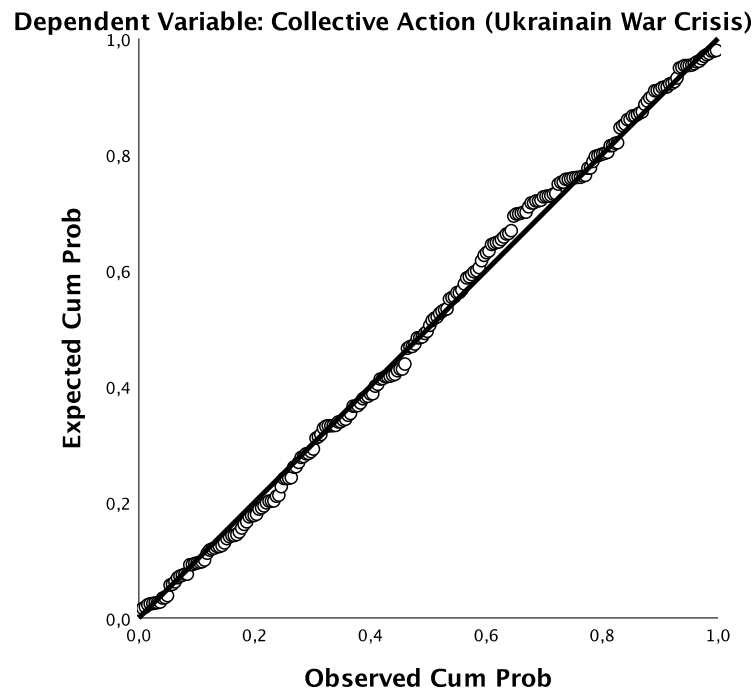
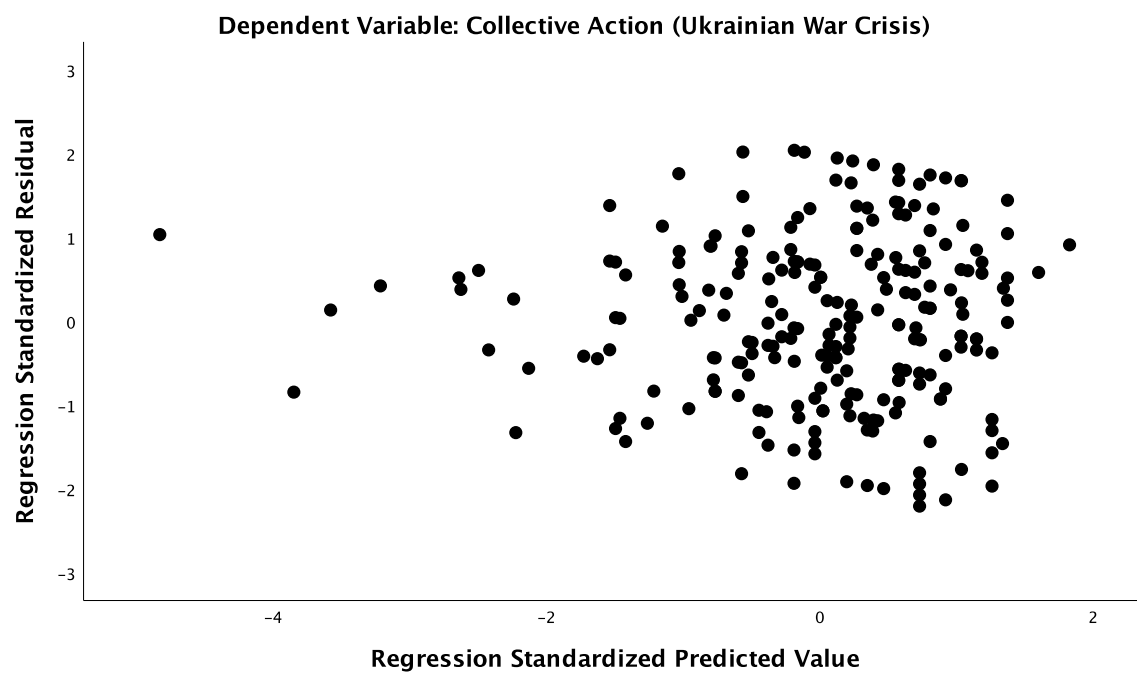
**Figure 5**

*Scatterplot of the Standardized Residuals to Assess Homoscedasticity and Linearity (Model 1)*



***Model 2: Moral Conviction About War Immigration (IV), Collective Action Participation in We Stand with Ukraine (DV), and Extraversion (Moderator)***

An analysis of standard residuals was conducted which indicated that the data contained no outliers (*Std. Residual Min* = -2.21, *Std. Residual Max* = 2.04). To assess normality, a normal P-P plot was constructed which allowed us to confirm this assumption (Figure 6). A scatterplot of the standardized residuals showed that the assumptions of homoscedasticity as well as linearity were met (Figure 7). Tests to check whether the data met the assumption of collinearity showed that multicollinearity was not a concern (*Moral Conviction*, *Tolerance* = .95, *VIF* = 1.05; *Extraversion*, *Tolerance* = .99, *VIF* = 1.02; *Interaction*, *Tolerance* = .96, *VIF* = 1.04). Additionally, there was independence of the residuals, as assessed by a Durbin-Watson statistic of 1.95.

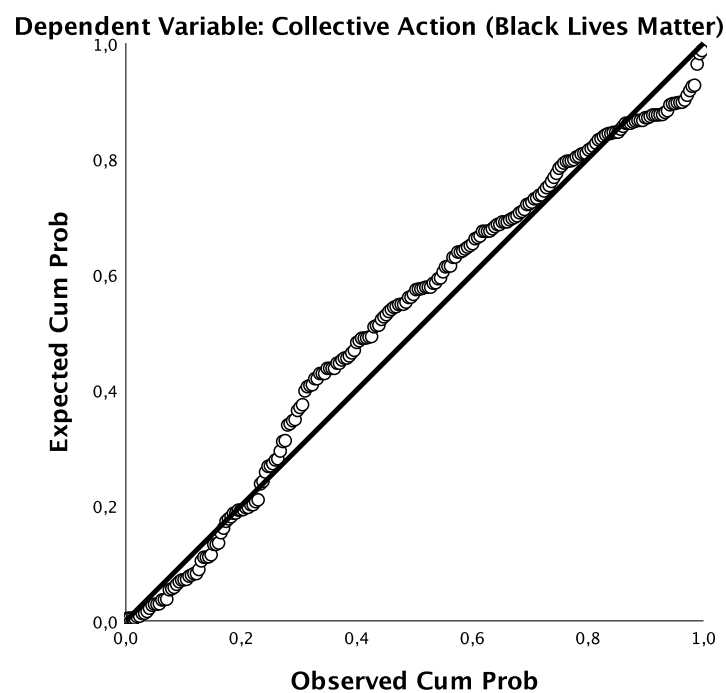
**Figure 6***Normal P-P Plot to Assess Normality (Model 2)***Figure 7***Scatterplot of the Standardized Residuals to Assess Homoscedasticity and Linearity (Model 2)*

***Model 3: Moral Conviction About Racial Inequality (IV), Collective Action Participation in Black Lives Matter (DV), and Extraversion (Moderator)***

An analysis of standard residuals was conducted which indicated that the data contained no outliers (*Std. Residual Min* = -2.63, *Std. Residual Max* = 2.23). To assess normality, a normal P-P plot was constructed which allowed us to confirm this assumption (Figure 8). A scatterplot of the standardized residuals showed that the assumptions of homoscedasticity as well as linearity were met (Figure 9). Tests to check whether the data met the assumption of collinearity showed that multicollinearity was not a concern (*Moral Conviction*, *Tolerance* = .96, *VIF* = 1.05; *Extraversion*, *Tolerance* = .96, *VIF* = 1.05; *Interaction*, *Tolerance* = .92, *VIF* = 1.09). Additionally, there was independence of the residuals, as assessed by a Durbin-Watson statistic of 2.15.

**Figure 8**

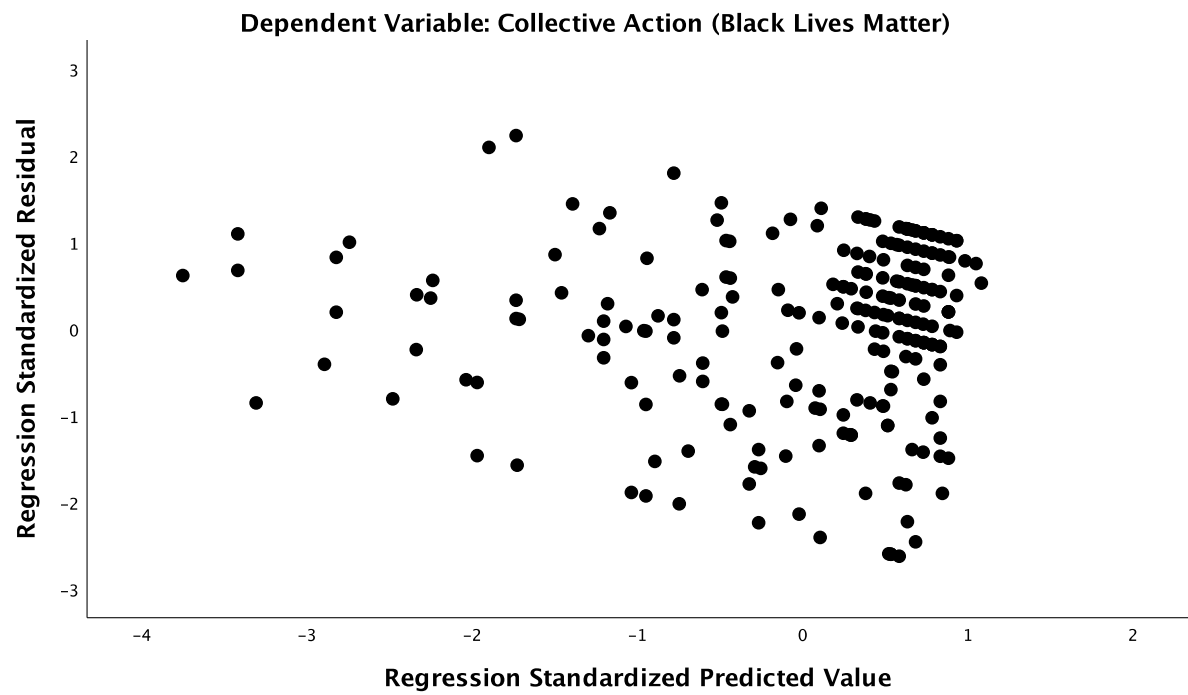
*Normal P-P Plot to Assess Normality (Model 3)*





**Figure 9**

*Scatterplot of the Standardized Residuals to Assess Homoscedasticity and Linearity (Model 3)*



## Appendix B

**Figure 2**

*Power Plot for a Range of Values for Effect Size*

