

Development and Validation of a Measurement Scale for Political Activism Among Young Adults Between 18 and 25 Years Old.

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Abstract. Young people show a declining interest in participating in traditional political participation and voter turnout. At the same time, alternative forms of political participation among the younger generations have emerged. This generation finds its alternative ways throughout Snapchat, Whatsapp, YouTube and TikTok. To gain a robust understanding of youth activism, appropriate and validated measurement instruments are essential. However, many instruments used today do not reflect the changed political participation forms of young people. Moreover, many existing scales are derived from American studies, limiting their applicability in European contexts. Therefore, this study set out to develop and validate a new political activism measurement scale. The mixed-methods study was based on the scale development process by Boateng et al. (2018). Two scales were developed: the Intentional Activism Scale, which measures the intent to engage in political activism, and the Actual Activism Scale, which measures actual participation. Each scale consists of five constructs (dimensions), which represent specific forms of activism, measured through carefully developed items. After development, both scales were distributed by means of a survey. Special efforts were made to recruit young adults from Dutch activism groups. The study was conducted in May 2024. 159 young adults (Mean age $M = 20.8$, $SD = 2.4$, 119 female, 39 male, 1 other) participated in the study. The Intentional Activism Scale ($\alpha = .94$) and Actual Activism Scale ($\alpha = .93$) both showed excellent reliability. Wilcoxon Signed Rank tests indicated that four of the five activism constructs (online activism, oppositional activism, collective activism and financial activism) showed significant differences, with intentional activism scoring consistently higher than actual activism ($p < 0.05$). Only the construct verbal activism did not show a significant difference between intentional and actual activism. A Pearson correlation analysis showed a positive correlation between intentional and actual activism ($r(161) = .781$, $p < .001$).

1. Introduction

The political climate in the Netherlands is characterized by a multitude of issues, perspectives, and stances within the society. The climate, Black Lives Matter, conflicts in Gaza and Ukraine, changes in agricultural policy, and dissatisfaction with COVID-19 policies are among the themes of demonstrations in recent years (Bentham, 2022; Pols, 2021). The year 2023 witnessed an unprecedented number of strikes, a phenomenon relatively uncommon in the Netherlands compared to neighboring countries such as England and France (Rosman, 2024). Analyzing the age demographics of protest participants reveals that Dutch youth exhibit relatively low levels of political engagement. This observation is corroborated by recent international research conducted by the International Association for the Evaluation of Educational Achievement (IEA) (Daas et al., 2023). Political involvement, defined as actions by citizens aimed at influencing government personnel and their actions, among young people in the Netherlands is notably low (Verba and Nie, 1987). Research by the Erasmus Society, Youth and Neuroscience Connected (SYNC) organization and the Hot Politics Lab among young individuals in Rotterdam aged 10 to 25 indicates that 50% of young people do not find Dutch politics interesting (Erasmus SYNC lab, 2023). This disinterest is also reflected in their voting behaviour, with the turnout rate among young people decreasing from 80% in 2022 to 73% in 2023 (NOS, 2023). Additionally, Dutch youth's knowledge about the democratic rule of law is lower than that of their peers in neighboring countries (Daas et al., 2023). Moreover, trust in the government is diminished, and students score below the international average in expected participation in both legal and illegal political activities (Daas et al., 2023). Interestingly, despite being less informed and less interested in traditional institutional politics, younger generations are more likely to join informal groups and engage in protest politics (Dalton, 2020; Norris, 2002; Sloam, 2007). This trend is attributed to growing political discontent and alienation, as concluded by Marsh et al. (Marsh et al., 2007).

Because of these developments, Dutch young people are often viewed as apolitical by researchers (Pirie and Worcester, 2000). On the other hand, Sloam (2007) argues that researchers should not assume that young people are apolitical because they do not participate in traditional political activities (Sloam, 2007). Instead, they should listen to what young people themselves consider as political activities. From a scientific point of view, this raises the question if the political activism of young people is measured correctly.

Activism is described by Smith and Furgeson (2005) as a process by which groups put pressure on organizations or institutions to change policies, practices, or circumstances that they consider problematic. An important distinction exists between the intention to act and the actual activism: intending to take action versus actually taking it. Various studies have endeavored to measure activism by practically determining this distinction through measurements conducted during demonstrations (McAdam, 1986; Oegema and Klandermans, 1994).

In general, scales such as the 'Activism Orientated Scale' (Corning and Myers, 2002) or 'The Activism Intention Scale' (Moskalenko and McCauley, 2009) are used to measure the intention to activism. According to the Theory of Planned Behaviour, intentions can be a good predictor of activism (Ajzen, 1991; Corning and Myers, 2002; Moskalenko and McCauley, 2009). In contrast, recent studies identify political engagement, political knowledge, membership of an (environment-related) organization, and education level as better predictors of current activism (Fielding et al., 2008; Sloam, 2007). However, the current measuring instruments do not sufficiently take into account the digital media use of young people. The 'Activism Oriented

Scale' by Corning and Myers (2002) shows outdated media practices, such as sending letters or e-mails to editors and participating in discussion groups, that are no longer relevant in the current digital context among young adults. Young people today are active on platforms such as Snapchat, Instagram, WhatsApp, YouTube and TikTok (Pel and Smit, 2023).

The fact that the scales commonly used to measure activism are outdated and do not include other predictors of activism makes that they have limited applicability to measure the political activism of Dutch youth. This while in general young people are the driving force behind demonstrations. For example, Jonathan Pinckney, professor of Political Science at the University of Texas, indicates in Moes' article (2019) that young people worldwide often take the initiative, encourage each other online, are the most committed and radical. In addition, he says: "Students and pupils have more time, of course, they don't have a family, they are flexible. And moreover, they can often be found in an environment with a lot of political activism, such as the university." (Moes, 2019). This is supported by the research of McAdam (1986). The fact that the methods to measure youth political activism are outdated, and recent data on youth involvement in protest politics are lacking, is also illustrated by having as most recent studies those by Norris (2002) and Marsh et al. (2007) (Marsh et al., 2007; Norris, 2002). Furthermore, the Scale of Behavioral Advocacy and Activism (SBAA) is useful for theory formation, but it is not directly applicable to the Dutch context and young people (McKeever et al., 2023). Moreover, the studies by Norris (2002), Marsh et al. (2007) and McKeever (2023) were conducted in the United Kingdom and United States and are therefore of limited applicability in the European political and cultural context. Due to outdated literature, methods, and changes in context such as the international political landscape, there is a need for an up-to-date understanding of contemporary Dutch youth activism. Therefore, developing a new scale for this target group in 2024 is necessary.

The societal importance of this study is that a high level of youth activism is a predictor of their well-being and critical awareness (Adu et al., 2022; Boehnke and Wong, 2011; Tausch and Becker, 2013). Adu et al. (2022) found that promoting empowerment and integrating a voice for young people within the system are crucial strategies for improving their mental health. Their activist behavior could act as a reflection of their views on society. Developing a new scale for measuring political activism is therefore essential.

It is not only important for the target group to know how much and what forms of activism they carry out. Various studies show that although protest is increasing politically, its effectiveness is not growing with it (Chenoweth, 2017; Moes, 2019). By researching activism, it is also possible to look more deeply at its effectiveness.

The aim of this research is therefore to develop and validate a scale that measures both the intentional activism and current activism of young people. The research question is thus: "*What scale can be used to reliably measure the activism of young Dutch individuals aged 18 to 25?*"

This research is based on main steps in the scale development procedure of Boateng et al. (2018) from their work 'Best Practices for Developing and Validating Scales for Health, Social, and Behavioral Research: A Primer' (Boateng et al., 2018).

2. Theory and hypotheses

2.1 Introduction

This chapter 2 examines the principal theories and literature pertinent to the development of a measurement scale that encompasses both intentional and current activism among individuals aged 18 to 25. Initially, we will delineate the concepts of intentional activism and current activism, followed by an exploration of the distinctive attributes of youth activism. The chapter delves into the intricacies of young people's engagement in activist activities. Subsequently, the current state of scientific knowledge regarding measurement tools for activism will be described, with an emphasis on the challenges and limitations inherent in these tools.

2.2 Activism, political participation and involvement

Political engagement and activism are interrelated concepts, yet they differ in their methodologies and objectives. This chapter investigates these distinct concepts and provides a contextualised definition of activism within the broader framework of political participation. While political engagement and activism are often perceived as overlapping, there are significant differences and nuances between them. Political involvement refers to actions undertaken by citizens to influence the selection of government personnel and their actions (Verba et al., 1978). Examples include voting behaviour, political interest, and following traditional and digital media (Bakker & De Vreese, 2011). Milbrath (1981) expands this notion by arguing that it also encompasses actions aimed at influencing or supporting government and politics, which aligns with Smith and Furguson's (2005) description of activism.

Smith and Furguson (2005) describe activism as a process by which groups exert pressure on organisations or institutions to change policies, practices, or circumstances they consider problematic. McKeever et al. (2023) view activism as a communicative action aimed at seeking and disseminating information, forming the basis for various types of activism and advocacy. Conversely, Tarrow (2011) posits that activism focuses on challenging those in power through collective action, contrasting with advocacy, where one works within or with an organisation to effect change (McKeever et al., 2023). Advocacy often entails lower risks and costs and emphasises reinforcement rather than confrontation.

The methodology of activism also contributes to its definition, resulting in a distinction between legitimate and illegitimate activism. Moskalenko and McCauley (2009) developed the 'Activism Intention Scale' to measure the willingness to participate in legal and non-violent political actions. Additionally, they created the 'Radicalism Intention Scale' to measure the willingness to engage in illegal or violent political actions (Moskalenko & McCauley, 2009). The Dutch Ministry of Foreign Affairs (BZK) and the Dutch General Intelligence and Security Service (AIVD) distinguish between activism, extremism, and terrorism in the context of security (BZK, 2023). Activism involves peacefully advocating for viewpoints, while extremism seeks radical changes, sometimes without democratic principles. Terrorism includes violent actions intended to instil fear and effect change, with socially disruptive consequences (BZK, 2023).

The broader term political participation encompasses citizens' involvement in political affairs by staying informed and participating in activities that directly or indirectly affect government or public policy (Schols & Jansz, 2013; Zukin et al., 2006). Examples include gathering political

information, participating in demonstrations, and signing petitions. Young people exhibit a more diverse and less traditional form of political engagement (Loader et al., 2014).

In this study, activism is used as a central concept, highlighting the intentions and active nature of activist acts and considering the shift towards less traditional forms that young people relate to, as opposed to broader forms of political participation.

2.3 Young people's perspective on activism

The preceding section 2.2 provided a general overview of activism, while this section focuses specifically on the perspective of young people regarding activism. Deželan (2023) highlights that researchers often discuss youth political participation without incorporating the viewpoints of the target demographic. This chapter aims to underscore the significance of understanding young people's perspectives on activism to accurately measure it. A relevant source is the book "The Hip-Hop Generation Fights Back" that elucidates how young individuals conceptualise activism (Clay, 2012). "The Hip-Hop Generation Fights Back" portrays social activism in the 21st century as perceived and enacted by young people. It presents a qualitative analysis of youth activism, with several young individuals sharing their definitions of activism. These definitions offer alternative interpretations compared to those in section 2.2, yet they align with Smith and Ferguson's (2005) definition of activism.

Conrad, one of the interviewees, defined activism as "rallying people together against a cause... being actively aware of what is happening and caring" (Clay, 2012). However, Clay (2012) notes that the interviewees describe activism as encompassing smaller actions aimed at addressing significant issues. Monica, another interviewee, responded to the question of whether she is an activist by stating, "maybe in small ways, like teaching my niece or nephew things they might not have known otherwise. And in Teen Justice and at home, by fighting for what I believe in" (Clay, 2012, p.176). This sentiment is echoed by a Chilean activist: "Here is an example of how young people educate themselves with a purpose. Some interviewees, already in their 20s, had also undertaken the role of educators, realizing that many of their fellow citizens need more climate knowledge" (Eide and Kunelius, 2021).

These descriptions of activism are consistent with Pottinger's (2017) concept of quiet activism, which involves subtle yet impactful forms of engagement (Pottinger, 2017). Horton and Kraftl (2009) describe quiet activism as affirmative and potentially transformative acts that are modest and cause little disruption, such as everyday actions that can still have a significant impact (Horton and Kraftl, 2009).

The young interviewees exhibit inconsistencies in their views on activism; some struggle with the idealised image of what it means to be an activist. Consequently, young activists often look up to their predecessors and consider themselves non-activists. Trisha illustrates this by stating, "I think it's hard to call yourself an activist because it covers so much and you have to do so much" (Clay, 2012, p.160). Xochitl shares a similar sentiment: "I don't feel that I do enough to become an activist... I feel like an activist is someone who does a lot and spends all their time trying to change things." Despite their active participation in activism, young people's views on these behaviours reveal complexity and contradictions.

2.4 Scales of Measurement of Activism

2.4.1 Introduction

This research focuses on the development of a scale to measure political activism among individuals aged 18 to 25. Initially, a comprehensive literature review was conducted on existing measurement scales (De Vet et al., 2011). The review identified three prominent scales that assess various forms of political activism: the 'Activism Orientation Scale' (AOS) (Corning & Myers, 2002), the 'Activism-Radicalism Intentions Scale' (ARIS) (Moskalenko & McCauley, 2009), and the 'Scale of Behavioral Advocacy and Activism' (McKeever, 2023).

2.4.2 Activism Orientation Scale (Corning & Myers, 2002)

The purpose of this scale is to be able to predict a person's future (intentional) activist behavior. Corning and Meyers (2002) found that there are several sources that argue that interpersonal and organizational ties are crucial for stimulating activism (Klandermans & Oegema, 1987; McAdam, 1986). They created the Activism Orientation Scale (AOS) consisting of 35 items. The AOS has two subscales: the Conventional Activism Subscale (28 items) and the High-risk Activism subscale (seven items). In the conclusion, the investigators recommend that a more accurate study with this scale can be achieved by administering the AOS before and after an activist campaign or by using it to compare the activist orientation between participants and non-participants. This interprets that the scale cannot actually measure behavior because this is ultimately only a prediction. The researchers recommend using the scale longitudinally.

2.4.3 Activism-Radicalism Intentions Scale (Moskalenko & McCauley, 2009)

The Activism-Radicalism Intentions Scale (ARIS) also measures intentional behaviour, but distinguishes between activism and radicalism. Those two types of conduct must be distinguished. Research shows that people who start out as activists often continue to radicalize on their own, and that most radicals started their journey as activists (Moskalenko & McCauley, 2009). This is also called 'the conveyor belt metaphor' of radicalisation and suggests that there is a direct and easy transition from activism to radicalism (Moskalenko & McCauley, 2009). The scale consists of ten items and this scale resulted in two subscales: Activism Intention Scale and the Radicalism Intention Scale. Given the context for which this scale was developed, this scale is partly not appropriate. Nevertheless, the ARIS can be used as input for this research.

2.4.4 Scale of Behavioral Advocacy and Activism (McKeever, 2023)

McKeever and colleagues (2023) found that definitions of advocacy and activism were missing, as well as the valid measurements of the concepts. Based on this perception, McKeever et al. (2023) developed the 'Scale of Behavioral Advocacy and Activism' scale in a similar way to this study with two rounds of expert feedback and two surveys. The scale consists of six constructs, three of which measure advocacy, namely symbolic advocacy, online advocacy and dialogical advocacy, the three other constructs measure activism, namely financial activism, collective activism and oppositional activism. The advocacy constructs are also called the low-risk behaviors or low-cost constructs, while the constructs of activism are high-risk behaviors and higher costs (McKeever, 2023). McKeever advised to use the scale to further build theories related to situational theory (STOP). For this, McKeever et al. (2023) argue that the Behavioral

Advocacy and Activism scale, for example, should include the behavioral intentions from the situational support can replace whether the behavior follows intentions.

2.5 Hypotheses

2.5.1 Hypothesis 1 – Intentional and actual high risk activism

McKeever et al. (2023) distinguish activism from advocacy and mention that higher risk actions or costs are described as activism, these actions are against an organization or individual with power. They describe lower risk actions or costs as advocacy and take place within an organization with the support of this organization or individuals (McKeever et al., 2023). Young people themselves are milder about the form of activism (see section 2.2). In this research, their perspective is weighed, forms of advocacy are activism in their view. By supplementing Pottinger (2016), who describes smaller, everyday actions as activism. McAdam (1986) emphasizes that the cost, including time, money, and effort, is crucial for characterizing various forms of activist activity. The forms that this research measures as high-risk activism are collective and oppositional activism. The forms of online, symbolic, financial and verbal activism are seen as low-risk forms (McAdam, 1986; McKeever, 2023). Despite the fact that McKeever et al. (2023) sees financial advocacy as advocacy and McAdam (1986) writes that high costs are also in money, the ARIS (Moskalenko & McCauley, 2009) shows an item that sees financial advocacy as activism.

The research of McAdam (1986) investigates high-risk-cost activism during The Freedom Summer Campaign. McAdam (1986) provides a comprehensive view of the high and low risk and cost of activism. During a period of a demonstration, Klandermans and Oegema (1984) investigated which factors supported activism of individuals to participate or not to participate in a demonstration with regard to their attitudes. McAdam (1986) writes: "It is precisely this disparity between attitudinal affinity and actual participation that requires explanation". Both studies show that the attitudes of individuals are high to participate, but the turnout at those demonstrations contradicts the attitudes (Klandermans & Oegema, 1984; McAdam, 1986).

McAdam's (1986) research on the Freedom Summer Campaign illustrates the differences between intentional engagement in high-risk activism and actual participation. He emphasizes that while individuals often have the intention to participate in activist actions due to their ideological beliefs, actual participation depends on structural factors and network support within activist communities. This is supported by Klandermans and Oegema (1984), who show that attitudinal affinity is not sufficient to explain the actual participation in demonstrations. As a result, there is a distinction between the intention to participate and actual participation. This suggests that intentional high-risk activism will be higher than actual high-risk activism. For this reason, hypothesis 1 is postulated as follows:

Hypothesis 1: *"The intentional high-risk activism will be higher than the actual high-risk activism."*

2.5.2 Hypothesis 2 – Online and offline activism

This section examines how young people, specifically Generation Y (millennials) and Generation Z (digital natives), engage in online activism and how their media use influences their political engagement. Both generations spend an average of 4.8 hours a day online on

platforms such as Instagram, Whatsapp, Youtube, Tiktok, and Snapchat, and 45% of them use social media as a source of news (Pel, 2023). Daily media use affects their information provision and ensures that they can be exposed to social issues. The internet is also used to change issues, through, for example, hashtag activism such as the #MeToo and #Blacklivesmatter movements, at the time on Twitter (Zulli, 2020)

Research in Europe shows that 56.7% of young people participate in online political activities, 50.6% in offline activities and 36.7% in both (Schols and Jansz, 2014). Nonconventional forms of political engagement, such as ethical consumerism, are popular, with one in five young people buying or boycotting products for political reasons (Schols and Jansz, 2014). Online political engagement depends on political interest and is fostered by internet skills and social networks (Schols and Jansz, 2014). Young people with better social skills participate more offline, while those with less social and communication skills prefer to do so online. Moreover, it appears that online requests to disseminate political information promote offline political participation (Schols and Jansz, 2014). Finally, research shows that online activism is a positive mediator that can transform situational motivation into increased offline activism (Chon and Park, 2020). This leads to the following hypothesis:

Hypothesis 2 - *"Young people who score higher on online activism also score higher on other forms of activism."*

2.5.3 Hypothesis 3 - Collective Activism

A high-risk form of activism is collective activism. Through collective activism, a social movement seeks to increase status, power, and influence, and may resort to misconduct if they are unable to achieve their goals through legitimate means (McKeever et al., 2020). Examples include the occupation of the A12 highway by Extinction Rebellion, the blockade of highways by Farmer's Defense Force and the protests of the pro-Palestinian groups in XXX. Young people are often willing to protest and relatively often actually participate in such protests (Dalton, 2009; Loader et al., 2014; Norris, 2002; Sloam, 2007). However, due to the high risks, intentions to take action are not always converted into actual participation in actions. At the same time, it can also be observed that, for example, the pro-Palestinian actions in the West are mainly carried out through universities, i.e. with relatively highly educated people. For example, Sloam et al. (2021) found that engagement in higher education plays a crucial role in the political participation and engagement of young adults (18-24 years old). Young Europeans who have completed higher education are more active in all forms of political participation than their peers who have only completed secondary education. These findings support the idea that higher education contributes to a higher degree of political participation and engagement among young people. Therefore, the question arises as to the relationship between intentional collective activism and actual collective activism, and whether education level plays a role in this. Therefore, the following hypothesis has been formulated:

Hypothesis 3: *"The effect of Intentional Collective Activism on Current Collective Activism is mediated by education level."*

3. Method

3.1 Study design

The study started with the creation of an initial scale by an expert group (section 3.2). This initial scale was needed to record and analyse the responses on various constructs and items. The main experimental part of this study was conducted as an online survey using Qualtrics, using the initial scale as a scale to be scored by participants. The goal of the survey was to provide input for constructing a final scale. Next, the answers by the participants have been used to test the hypotheses with the final scale as a useful tool (section 2.5). The study has been approved by the ethics committee of XXX.

3.2 Initial scale development

A group of university experts was invited to discuss in a focusgroup the 'Activism Orientation Scale' by Corning and Myers (2002), the 'Activism and Radicalism Intention Scale' by Moskalenko and the 'Scale of Behavioral Advocacy and Activism' by McCauley (2009) and McKeever et al. (2023). The focusgroup was conducted in line with the university qualitative research standards. For the sake of brevity, only the results are reported in this study.

The focusgroup discussions resulted into two scales, an Intentional Activism Scale and an Actual Activism Scale. The scales consisted each of six constructs, namely Online Activism, Oppositional Activism, Collective Activism, Dialogue Activism, Symbolic Activism and Financial Activism. Between the scales, the items were similar but differed in meaning. For example, the Intentional Activism Scale has the construct Online Activism with the item statement "I intend to post a message online" and the Actual Activism Scale has the construct Online Activism with the item statement "I have posted a message online". These initial scales are included in Appendix A.

3.3 Participants

The initial scales with 58 items were distributed online among respondents. The respondents were recruited in various ways. First a convenience sample was taken and the snowball method was used in which respondents were asked to let new respondents participate. Secondly, a targeted sample was carried out, because the research is about political activism, and specifically activist target groups were invited to complete the questionnaire. These target groups were approached in various ways, including through the researcher's network and recruiting respondents during the researcher's participation in physical protests. Finally, the questionnaire was distributed via the researcher's personal social media account, the XX university's internal respondent recruitment system, and in particular, flyers were hung around schools in XX to recruit respondents from that student group.

The determination of an appropriate sample size for scale development is discussed extensively in the literature. Boateng et al. (2018) posit that a larger dataset, and consequently a higher respondent-to-item ratio, results in reduced measurement errors, more stable factor loadings, greater reproducibility of factors, and enhanced generalizability of results to the actual population structure. Based on various cited sources, Boateng et al. (2018) recommend targeting over 200 respondents. Comrey and Lee (2013) describe this as fair (Comrey and Lee, 2013). Conversely, Tabachnick and Fidell (2013) suggest that while a sample size of 300

respondents is ideal, a smaller sample of at least 150 respondents may suffice if the solutions include multiple indicator variables with high loadings (above .80) (Tabachnick and Fidell, 2013). In this study, assuming a small effect size of 0.25, an alpha of 0.05 and a power of 0.9, a desired sample size for testing the hypotheses of 145 was determined with the G*Power tool (Faul et al., 2007), see Appendix B. The survey was completed by 180 people, and after data cleaning 159 respondents completed the entire survey (N=159). This study is therefore reasonably meeting the desired sample size criteria.

The sample population has a gender composition of 39 male, 119 female and 1 other. They had an average age of $M=20.9$ ($SD=2.37$). Of the group, 105 individuals were scientifically educated, 27 had higher education, 12 of them had post-secondary vocational education, and 36 of them had completed upper secondary education.

3.4 Procedure

Respondents were able to complete the survey in a period of six weeks, and this period ran from April 16, 2024 to May 29, 2024. Prior to the survey, respondents go through XX university's standard procedure of informed consent and, before the survey starts, accept this procedure. If the respondent did not agree to this, there was no possibility to participate. There was an incentive for some respondents in the study, because through the XX system, respondents can receive half a test subject point for participating in the study. There was no incentive for respondents who were recruited through other channels. The respondents ended up on the Qualtrics Research Core™ page via the recruitment channels, where the questionnaire could be completed. If the respondent agreed, the questionnaire started.

This questionnaire first asked for three items with demographic data on age, gender and education. To get a picture of the political and societal concerns of the sample group, participants were asked to answer the multiple-choice question 'I am concerned about the following issue(s)' with multiple filling options: 'Equality and inclusion', 'Environment and climate', 'War and defence', 'Agriculture and food supply', 'Healthcare', 'The economy and labour market', 'Housing, Education', 'Technology and privacy', 'Human rights', 'Other, namely: (free input field)', 'I'm not worried', 'I don't know'. The answer options 'I don't know' and 'I'm not worried' cannot be filled in in combination with each other or other answer options. This item is used to paint a picture of what the target group is concerned about and serves as a tool to fill in the questionnaire with regard to that issue.

Subsequently, the variable involvement organization was developed, with the same descriptive purpose as the previous item. The accompanying question 'I feel involved in the following organisation(s)' could be answered with several options partly based on groups that have recently developed activist activities in the Netherlands, in particular 'Farmers Force Defence', 'Extinction Rebellion (XR)', 'Greenpeace', 'A (youth) government organisation', 'Kick Out Zwarte Piet (kozp)', 'Amnesty International', 'Vote for a woman', 'Wakker Dier', 'Other, namely: (free input field)', 'None of the above', 'I don't know'. Again, 'None of the above' and 'I don't know' could not be filled in in combination with each other or other answer options. The involvement and issues are both measured as a dichotomous variable as yes or no.

Next, the 58 statements from both activism measurement scales were asked. Finally, participants were thanked for their effort.

3.5 Data analysis

Data were analysed with SPSS v28. After data cleaning and removal of participants that not completed the survey, factor analyses were conducted for both scales. Next, descriptive statistics on the demographic data and the items on political concerns and relation to activism groups was determined. Finally, the hypotheses were tested. Hypothesis 1 was tested with a Wilcoxon Signed Rank Test. Hypothesis 2 was tested with a regression analysis. Hypothesis 3 was tested with a mediation analysis using SPSS PROCESS v4.0 (Hayes, 2017).

In step 6 of Extraction of Factors, Boateng et al. (2018) explain that a scale is created by a factor analysis to classify items into domains. Boateng et al. (2018) indicate that there are several ways to do this, such as a scree plot, exploratory factor analysis, and a parallel analysis. In this study, the principal factor analysis was chosen because it includes these plots and analyses, it is widely used in communication science and it is well supported by the statistical tool SPSS. This study follows the factor analysis steps outlined by (Pallant, 2020).

4. Results

4.1 Factor analysis Social Intentional Activism Measurement (SIAM) Scale

First a principal factor analysis (PCA) was performed on the Intentional Activism Scale of 29 items. To perform a PCA, it is first important to check whether the data is suitable. According to Pallant (2020), the sample size is first of all important for the usability of a dataset for a factor analysis. Factors of a small dataset do not generalize as well as factors derived from a larger dataset. Tabachnik and Fidell (2013) (see Pallant) argue that a sample size of 150 should be sufficient when different factor loadings are >0.80 .

This study has a sample size of 159 and different factor loadings >0.80 (see Appendix 6). In addition, Nunnally (1978) states that the participant/items ratio should preferably be 10:1, and Tabachnik and Fidell (2013) set the ideal ratio at 5:1. In this study it is 7:1, and is therefore considered sufficient to meet this criterion.

Next, the Kaiser-Meyer Olkin value was examined, which was determined as .918 and this is considered excellent (Kaiser, 1970, 1974). The Sampling Adequacy and Bartlett's Test of Sphericity showed a significance level of $p<.001$. The correlation matrix of the 29x29 items (not included in the paper due to size, but available on request) also showed more than sufficient correlation coefficients with a value $>.30$. From this it can be concluded that the data are suitable for performing a PCA. Pallant (2016) then describes that a factor extraction is necessary to represent interrelationships as well as possible, and to determine the number of factors, a number of data must be considered, namely Kaiser's criterion, the scree plot, a parallel analysis, the component matrix, the pattern matrix, and the component correlation matrix.

Kaiser's criteria, or the eigenvalue rule, states that only factors with an eigenvalue >1 are to be retained for further analysis. The eigenvalue of a factor indicates what part of the total variance in the data is explained by that factor. Table 1 shows that the first five components contain an eigenvalue >1 and these explain 70.64% of the explained variance.

Table 1

Variance table of the SIAM

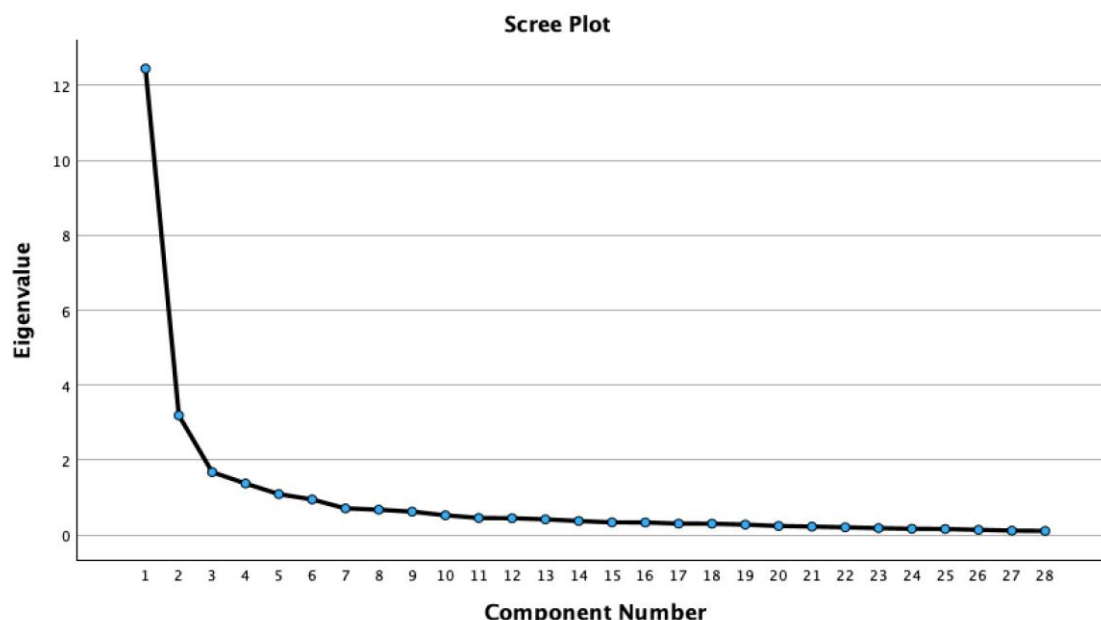
Component	Eigen values		
	Eigen valuee	Variance explained %	Cumulative variance %
1	12.451	44.47%	44.47%
2	3.190	11.39%	55.86%
3	1.677	5.99%	61.85%
4	1.373	4.90%	66.75%
5	1.089	3.89%	70.64%

Note: Kaiser-Meyer Olkin Measure of sampling Adequacy=.918. Chi-square value of Bartlett's test of Sphericity=3470.379 Df= 378 p=0.001

Next, a Scree plot was made (Figure 1).

Figure 1

Scree plot Intentional Activism Scale



In the scree plot it is visible that from the third component there is a clear increase. In a scree plot, Catell's (1996) stated that the factors above the kink explain the most.

A parallel analysis was then carried out. A parallel analysis determines the correct number of components by comparing eigenvalues to those of a randomly generated dataset of the same size, preserving only larger eigenvalues (Pallant, 2016). The parallel analysis was performed using the MonteCarlo tool with 100 replications. Like the scree plot, it showed three components (Table 2).

Table 2

Comparison of eigenvalues from PCA and criterion values from parallel analysis

Component number	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
1	12.903	1.8949	Accept
2	3.269	1.7590	Accept
3	1.722	1.6578	Accept
4	1.367	1.5723	Reject
5	1.246	1.4992	Reject
6	1.092	1.4272	Reject
7	0.822	1.3603	Reject

Next, the non-rotated Component Matrix is examined (see Appendix 7). The Component Matrix shows the non-rotated loads of each of the items on the five components, with most of the loads on components 1 and 2. According to the recommendation of Pallant (2016), a Pattern Matrix

is then determined with oblique rotation and Kaiser normalization is performed (see Appendix 8). This matrix shows five components with different numbers of items with an absolute value of the loads > 0.30 (Table 3).

Table 3

Component loadings

Component	Loadings > 0.30
1	8
2	7
3	8
4	7
5	2
6	4

Because of the application of the Oblimin rotation, the Structure Matrix is also included (see Appendix 9). The Structure Matrix shows the correlation between variables and factors and shows that components 1, 4 have mostly positively correlated items and components 2, 3, and 5 have mostly negatively correlated items. Finally, the Component Correlation Matrix has been determined (Table 4).

Table 4

Correlation Matrix

Component	1	2	3	4	5
1	1.000	-.360	-.464	.351	-.378
2	-.360	1.000	.299	-.033	.365
3	-.464	.299	1.000	-.411	.425
4	.351	-.033	-.411	1.000	-.292
5	-.378	.365	.425	-.292	1.000

The component correlation is not perfect in the sense that all off-diagonal elements are small, so that means that with five components there can be small to medium-sized correlations between the components. Component 1 and 3 have a negative correlation of -0.464 , which is relatively high. Component 1 and Component 2 have a negative correlation of -0.360 . Components 3 and 5 have a positive correlation of 0.425 . Components 2 and 5 have a positive correlation of 0.365 . The PCA analysis showed that all individual variables were greater than $>.30$, ranging from $.473$ to $.794$ (see Table 3). Based on this, an oblique rotation (Oblimin) was performed. The conclusion of the above analysis is that the factors correspond to McKeever's SBAA (2023), and that it is therefore likely that the scale and the five factors can be used to measure Intentional Activism.

The pattern matrix is decisively visualized in Appendix 6 Although the parallel analysis and the Scree Plot show fewer components than the pattern matrix, these three components from

the analysis did not provide any clarifying information. Based on the Pattern Matrix, four items have been removed resulting in a 23-item scale.

The internal consistency of the Social Intentional Activism Measurement Scale was then calculated (SIAM) and a reliability analysis were carried out. Based on this, the SIAM was constructed with good reliability ($M = 61.49$; $SD = 16.650$; $\alpha = .936$), since a good reliability is established with a Cronbach's alpha from $\alpha > .80$ (Field, 2018; De Heus, 1995). This research is a further development of the SBAA (McKeever, 2023), which uses six different constructs. Because the items of this study load on the same components as McKeever (2023), the SBAA is used as a guide for the components in the new scale development (SAM) of this study, with the SIAM and SAAM as subscales. The SIAM uses one component less based on the pattern matrix and results in the components: Collective Activism, Online Activism, Oppositional Activism, Verbal Activism and Financial Activism.

4.2 Factor analysis Social Actual Activism Measurement (SAAM) Scale

The analysis for 'Actual Activism' has gone through the same steps as the analysis for Intentional Activism. A principal component analysis (PCA) was performed on the intentional activism scores of the 29-item questionnaire. To assess the suitability of the data, the sample size and other criteria were considered (see section 3.3). Regarding sample size, this is the same as for the Intentional Activism Scale and therefore the same considerations hold.

The Kaiser-Meyer-Olkin value was .908, which is considered excellent (Kaiser, 1970, 1974), and the Bartlett's Test of Sphericity was significant ($p < .001$). This confirms that the data is suitable for a PCA. The PCA also showed more than sufficient correlation coefficients with a value $> .30$ (see Pallant, 2016). Table 5 shows that the first five components contain an eigenvalue > 1 and these explain 72.01% of the explained variance.

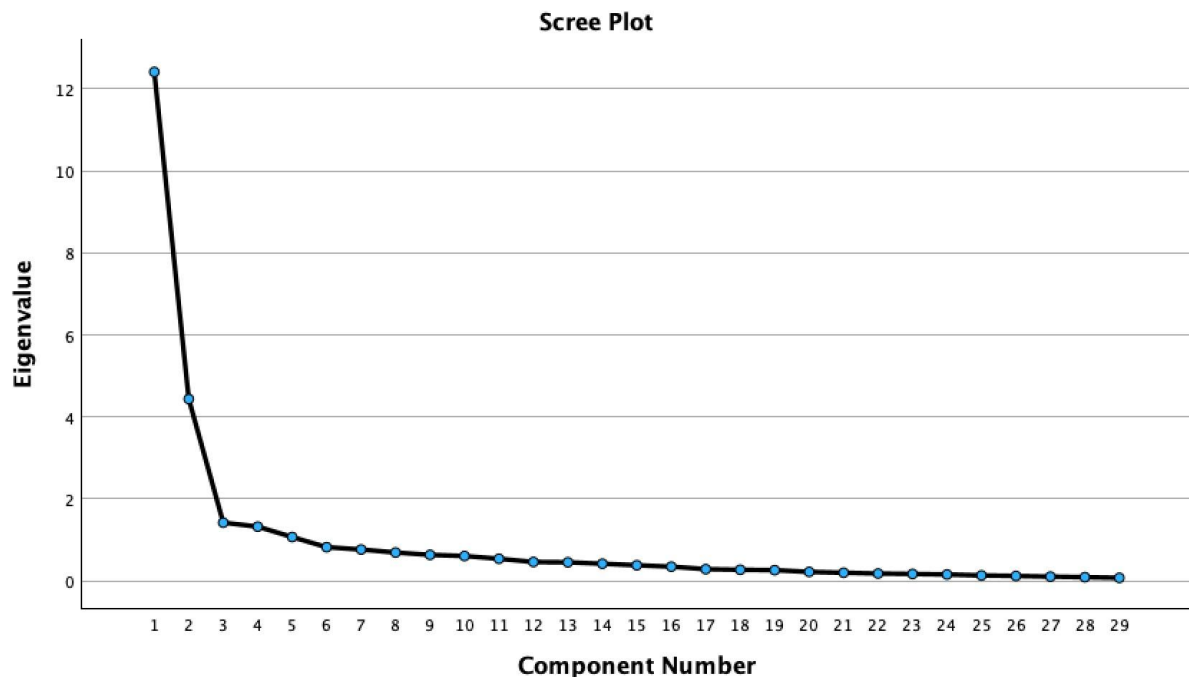
Table 5

Variance table of the SAAM

Component	Eigen values		
	Eigen valuee	Variance explained %	Cumulative variance %
1	12.668	43.68%	43.68%
2	4.610	15.90%	59.58%
3	1.405	4.85%	64.42%
4	1.225	4.225%	68.65%
5	0.975	3.363%	72.01%

Note: Kaiser-Meyer Olkin Measure of sampling Adequacy=.912. Chi-square value of Bartlett's test of Sphericity=3920.728 Df= 406 $p < 0.001$

Next, a Scree plot was made (Figure 2).

Figure 2*Scree plot SAAM*

A parallel analysis has also been carried out in Table 6. Like the Scree plot, it shows three components.

Table 6*Parallel analysis SAAM*

Component number	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
1	12.668	1.8949	Accept
2	4.610	1.7590	Accept
3	1.405	1.6578	Accept
4	1.225	1.5723	Reject
5	.975	1.4992	Reject
6	.788	1.4272	Reject
7	.737	1.3603	Reject

Next, the unrotated Component Matrix was examined (see Appendix 7), which indicated that most of the loadings were on components 1 and 2. Based on this observation, an oblique rotation was performed, resulting in a Pattern Matrix and Kaiser normalization. To utilize the SIAM and SAAM together, five factors were enforced in the analysis. These five factors exhibited items with absolute loadings greater than 0.30. The oblique rotation produced a Structure Matrix, which is presented in Appendix 8. It is evident that items in components 1, 2, 4, and 5 correlate positively, whereas items in component 3 correlate negatively. The oblimin rotation yielded a correlation matrix, as shown in Table 7.

Table 7*Correlation Matrix*

Component	1	2	3	4	5
1	1.000	.059	-.333	.563	.230
2	.059	1.000	-.465	.189	.404
3	-.333	-.465	1.000	-.440	-.347
4	.563	.189	-.440	1.000	.276
5	.230	.404	-.347	.276	1.000

The component correlation is not perfect in the sense that a number of off-diagonal elements are small, so that means that there may be small to medium-sized correlations between the components for five components. Component 1 and 3 have a negative correlation of -.333, which is relatively high. Components 1 and 4 have a positive correlation of .563. Component 2 and 3 have a negative correlation of -.465. Component 2 and 5 have a positive correlation of .404. The PCA analysis showed that all individual variables were greater than $>.30$, ranging from .473 to .794 (see Table 9). Based on this, an oblique rotation (Oblimin) was performed.

Finally, the pattern matrix was visualized in Appendix 13. Although the parallel analysis and the scree plot show fewer components than the pattern matrix, these three components from the analysis did not provide any clarifying information. In addition, the components and items fit on the SAAM. Based on the reliability analysis, the Social Actual Activism Measurement Instrument has been constructed with good reliability ($M = 48.24$; $SD = 15.837$; $\alpha = .928$), since a good reliability is established with a Cronbach's alpha from $\alpha > .80$ (Field, 2018; De Heus, 1995). This research is a further development of the SBAA (McKeever, 2023), which uses six different constructs. Similar to the SIAM, the SAAM uses one component less based on the pattern matrix and this results in the following components: Collective Activism, Online Activism, Oppositional Activism, Verbal Activism and Financial Activism.

4.3 Final scales

Following the results presented in sections 4.1 and 4.2, a final scale for Social Intentional Activism Measurement (SIAM) is given in Table 8 below.

Table 8*Social Intentional Activism Measurement Scale*

Construct (Activism type)	Items – I intend to ...
Collective activism	1. Join a committee of the organization 2. Help organize or host a political event related to the issue/organization 3. Meet with policymakers to advocate for the issue/organization 4. Attend an organization's meeting 5. Be an official in an organization
Oppositional activism	1. Engage in an activity related to the issue that may jeopardize relationships with family or friends 2. Participate in an activity where one can be arrested

	3. Participate in a group on Signal or Telegram related to the issue
	4. Engage in an activity where I might put myself at risk
	5. Block a building or public area with my body
Financial activism	1. Donate incidentally money to the issue/organization
	2. Donate structurally money to the issue/organization
	3. Make a financial contribution to a fundraiser
Verbal Activism	1. Dispute someone else's view of the issue/organization
	2. Discuss the issue/organization with family, friends, or others
	3. Pay attention to information in the news about the issue/organization
	4. Confront jokes, statements, or insinuations against the issue/organization
Online activism	1. Like a post about the topic or organization
	2. Share a post about the topic or organization
	3. Comment on a post about the topic or organization
	4. Write a post about the topic or organization
	5. Like or follow social media pages/accounts related to the topic or organization
	6. Sign an online petition related to topic or organization

Similarly, the final scale for Social Actual Activism Measurement is given in Table 9 below.

Table 9

Social Actual Activism Measurement Scale

Construct (Activism type)	Items – I have ...
Collective activism	1. Joined a committee of the organization
	2. Helped organize or host a political event related to the issue/organization
	3. Met with policymakers to advocate for the issue/organization
	4. Attended an organization's meeting
	5. Been an official in an organization
Oppositional activism	1. Engaged in an activity related to the issue that may jeopardize relationships with family or friends
	2. Participated in an activity where one could be arrested
	3. Participated in a group on Signal or Telegram related to the issue
	4. Engaged in an activity where I put myself at risk
	5. Blocked a building or public area with my body
Financial activism	1. Donated incidentally money to the issue/organization
	2. Donated structurally money to the issue/organization
	3. Made a financial contribution to a fundraiser
Verbal Activism	1. Disputed someone else's view of the issue/organization
	2. Discussed the issue/organization with family, friends, or others

Online activism	3. Paid attention to information in the news about the issue/organization
	4. Confronted jokes, statements, or insinuations against the issue/organization
	1. Liked a post about the topic or organization
	2. Shared a post about the topic or organization
	3. Commented on a post about the topic or organization
	4. Written a post about the topic or organization
	5. Liked or followed social media pages/accounts related to the topic or organization
	6. Signed an online petition related to topic or organization

4.4 Testing of hypotheses

4.4.1 Descriptive statistics

Data from the research is used to provide a picture and information of the target group. Data their current activism divided into five types of activism; financially, oppositionally, collectively, verbally and online is presented. Furthermore data on issues they are concerned about and their involvement in organisations are given.

Respondents scored below average on intentional activism ($M = 2,618$, $SD = .749$) and low on actual activism ($M = 2,063$, $SD = .676$). Table 10 shows the detailed scores per type of activism within the categories intentional activism and actual activism. To see if there is a significant difference between intentional and actual activism and thus two related samples, a Wilcoxon Signed Rank Test was performed as an alternative to the paired t-test because the data were ordinal. The analysis results in Table 10 show that respondents have a higher intentional activism for online, oppositional, collective and financial activism than for the same actual activism categories. Only for verbal activism there is no significant difference between intentional and actual activism.

Table 10

Summary scores on financial, oppositional, collective, verbal and online activism

	Intentional Activism Median	Actual Activism Median	Wilcoxon Signed Rank Test	
			Z	p
Online Activism	2.86	2.26	-8.11	<.001
Oppositional Activism	1.50	1.00	-8.20	<.001
Collective Activism	2.33	1.00	-9.42	<.001
Verbal Activisme	3.75	4.00	-1.80	.073
Financial Activisme	3.00	1.67	-9.79	<.001

Figure 3

Intentional Activism – Distribution

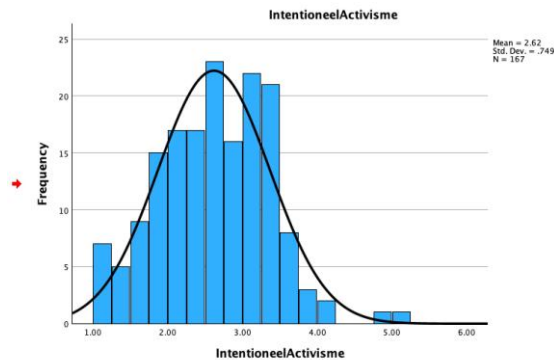
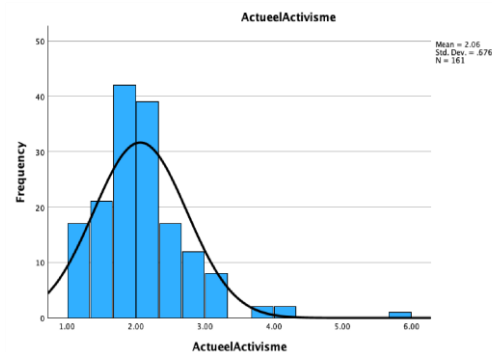


Figure 4

Actual Activism - Distribution

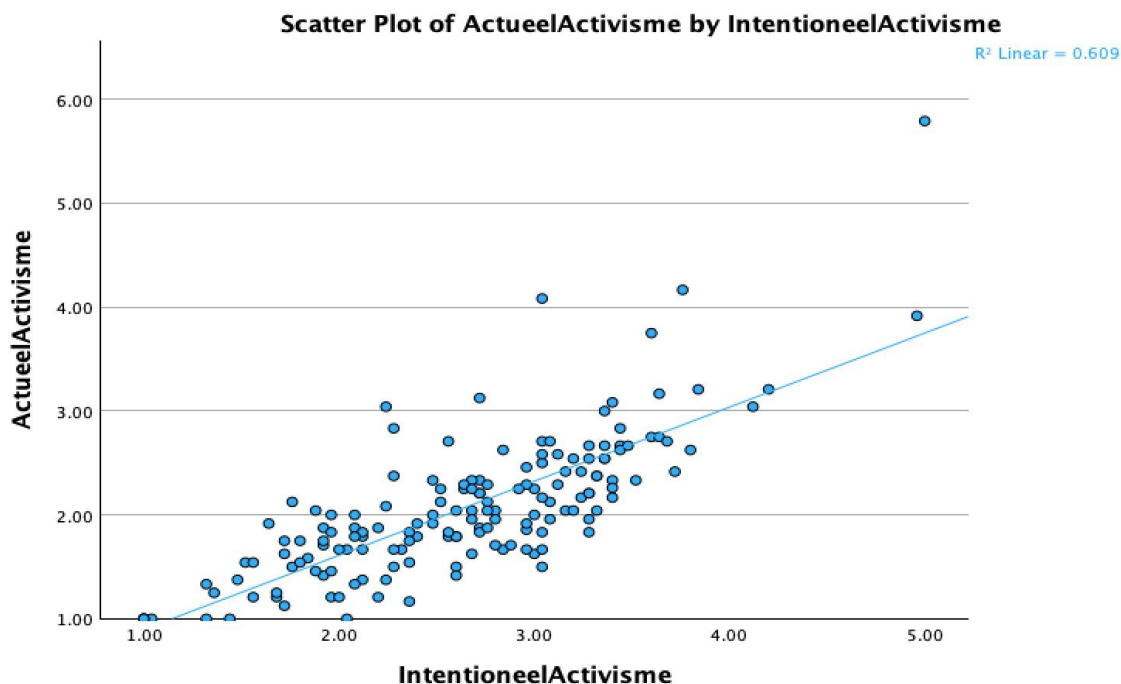


A Pearson correlation was conducted to investigate the relationship between intentional activism and actual activism. Both variables showed a normal distribution (Figures 3 and 4). The analysis showed a significant positive correlation ($r(161) = .781, p < .001$), suggesting that higher levels of intentional activism are associated with higher levels of actual activism. The closer the value of r is to -1 or 1, the stronger the correlation between the variables. Because the value of r is greater than .5, there is a strong positive relationship (Turney, 2022).

Figure 5 shows, by means of a *scatter plot*, the relationship between intentional activism and actual activism. The positive correlation ($r = .781, p < .001$) suggests that individuals who report higher levels of intentional activism also tend to exhibit higher levels of actual activism. The results of the respondents show that they are close to the regression line.

Figure 5

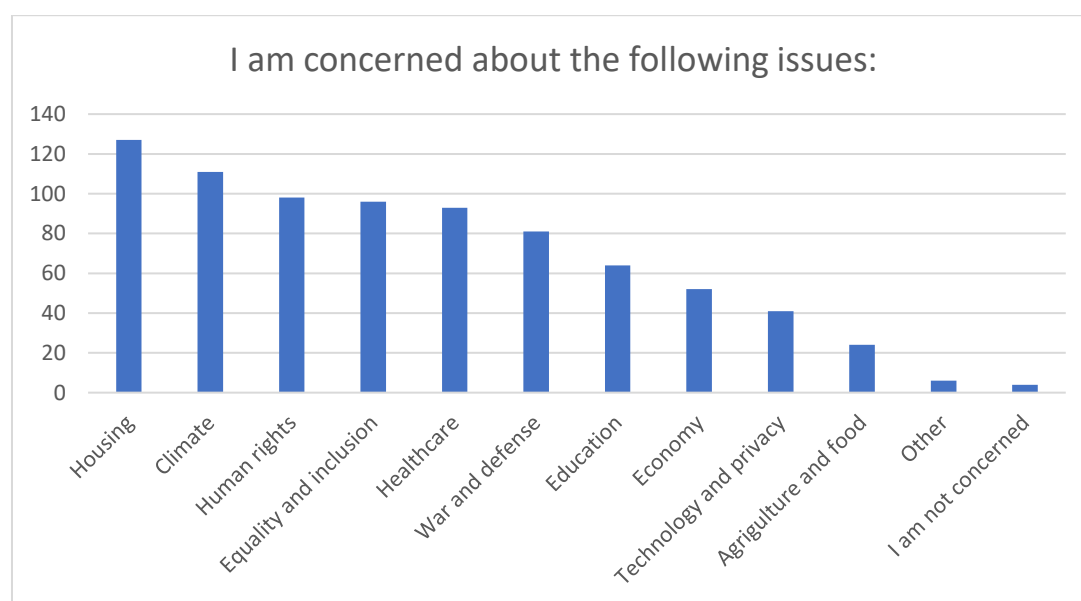
Scatterplot relation Intentioneel Activism versus Actual Activism



To help respondents complete the questionnaire, they were asked which issues they are concerned about and which organisations they feel involved in. Figure 6 shows that most respondents are concerned about six issues, namely housing, climate, human rights, equality, healthcare and war. Education, economy, technology and privacy, and agriculture and food supply are less reasons for concern. A few respondents show that they are not worried at all or that they do not know.

Figure 6

Histogram areas of concern



In order to be able to paint a picture of how young people behave collectively, they were asked about their involvement in organisations. The results are presented in Figure 7.

Figure 7

Bar chart Engagement to Organizations.

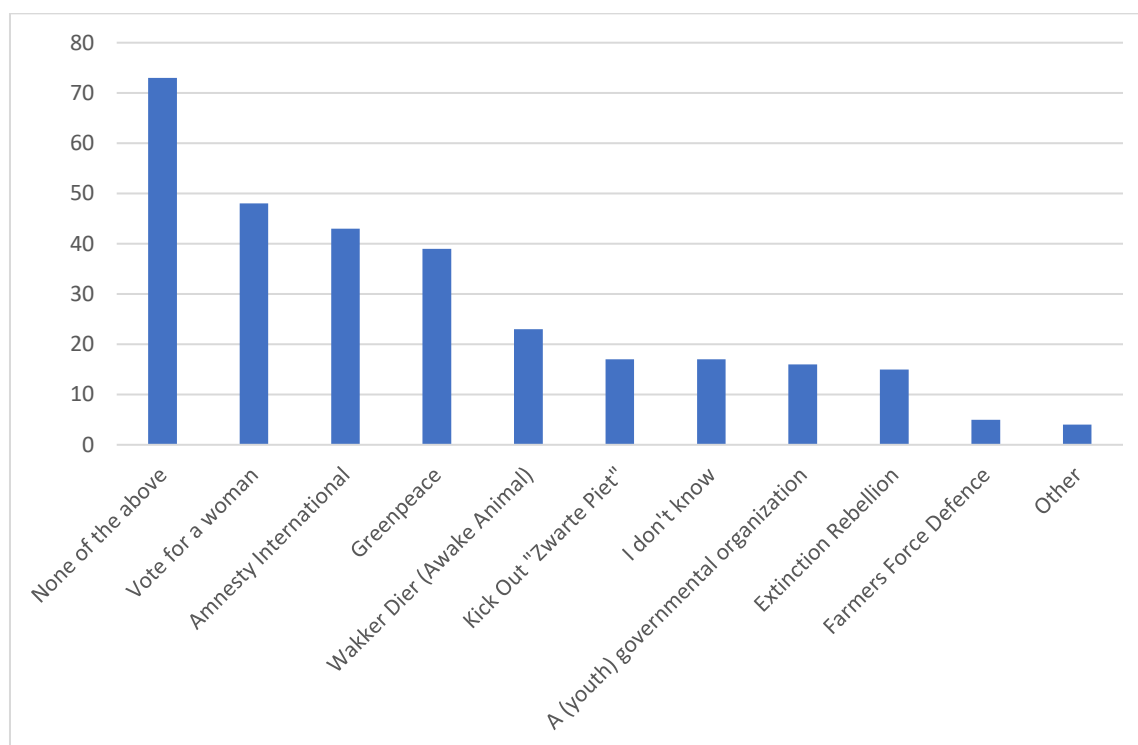
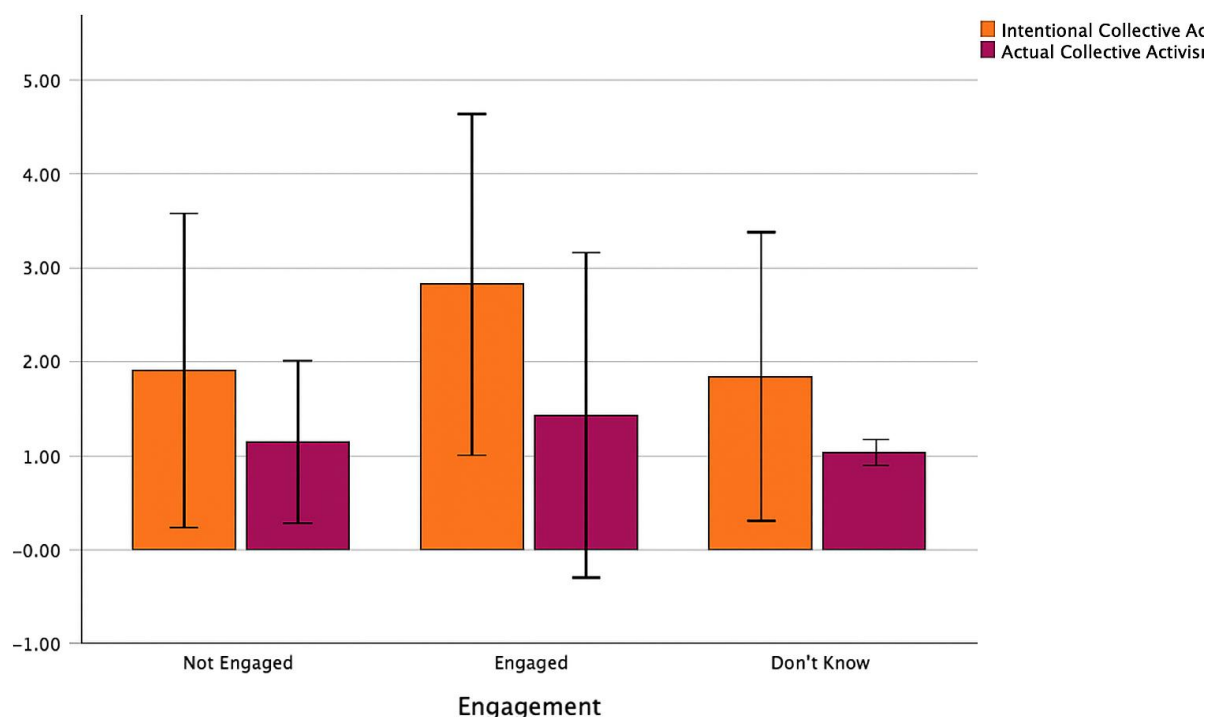


Figure 8 shows that the group that feels involved in an organization scores higher on average on intentional and current activism. In general, the average scores of intentional collective activism are higher than the actual values of collective activism, regardless of involvement. Respondents who do not feel involved or do not know that score visibly higher on average on intentional activism than respondents who feel involved, on current activism. This can be explained by the fact that respondents have the intention to conform to an organization, but have not yet been able or experience a high threshold of involvement in an organization.

Figure 8*Bar chart of Engagement on Intentional and Topical Collective Activism.*

Bars: +/- 2 SD

4.5 Hypothesis 1 – High-risk intentional and actual activism

A Wilcoxon Signed Rank Test was conducted to evaluate the differences between the scores of Intentional High Risk Activism and Actual High Risk Activism. The test showed that there was a significant difference between the Intention Activism (Median = 2.09) and Actual Activism (Median = 1.00), $Z = -9.502$, $p < .001$. Specifically, 129 participants had lower scores for Current High Risk Activism compared to Intentional High Risk Activism, while only 7 participants had higher scores for Current High Risk Activism. 24 participants had equal scores in both conditions. In addition, 98 participants scored a 1.00 on Actual High Risk. The hypothesis could be accepted.

4.6 Hypothesis 2 – Online activism as predictor for other activism types

Using regression analysis, hypothesis 2 was tested, that postulated that young adults who score higher on online activism also score higher on other forms of activism. This appears to be the case for all four other forms of activism (Table 11). Hypothesis 2 can be accepted.

Table 11*Relation between Actual Online Activism and other forms of Activism*

Predictor		B	Std. Error	Beta	t	Sig.
Actual Verbal Activism		.642	.076	.569	8.443	< .001

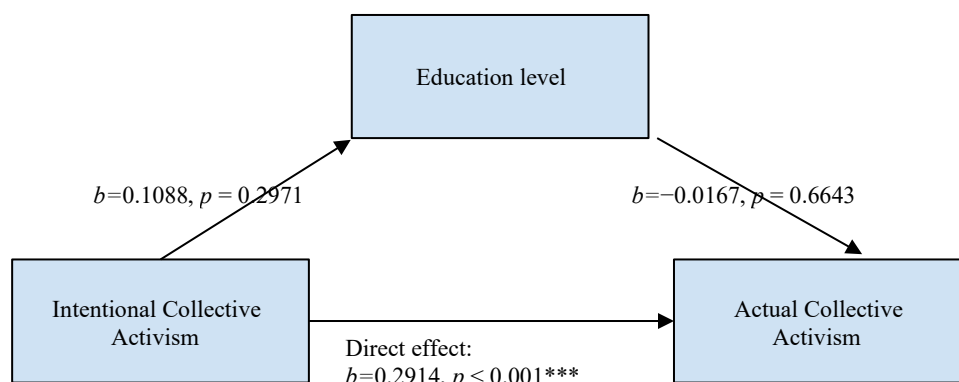
Actueel Activisme	Online	Actual Oppositional Activism	.359	.043	.563	8.319	< .001
		Actual Financial Activism	.451	.060	.526	7.519	< .001
		Actual Collective Activism	.329	.047	.496	6.979	< .001

4.7 Hypothesis 3 – Education level as mediator on the relation between Intentional Collective Activism and Actual Collective Activism

A mediation analysis using SPSS and PROCESS 4.0 was conducted to evaluate the effect of education level as mediator on the relation between Intentional Activism and Actual Activism. Based on the results, it can be concluded that the effect of Intentional Collective Activism on Actual Collective Activism is not mediated by education level. The results show that Intentional Collective Activism is a significant direct predictor of Actual Collective Activism ($\beta=0.2914$, $SE=0.0505$, $t=5.7722$, $p<.001$). However, education was not found to be a significant mediator in the relationship between Intentional Collective Activism and Actual Collective Activism ($\beta=-0.0018$, $BootSE=0.0050$, 95% CI [-0.0152, 0.0058]). The complete model is shown in Figure 9. This hypothesis must be rejected.

Figure 9

Mediation model between Intentional Collective Activism on Actual Collective Activism



5. Discussion and conclusion

The findings of this study contribute to the quantification of both intentional and actual activism among Dutch youth aged 18 to 25. The Social Activism Measurement Scale (SAMS) developed in this research is capable of assessing intentions through the SIAM subscale, and actual behaviours through the SAAM subscale across five distinct forms of activism. Although intentions and actual activism are evaluated at different measurement levels, they utilise analogous items. The central research question, "Which measurement scale can reliably assess the activism of Dutch youth aged 18 to 25?" is addressed by the SAMS. Compared to the AOS, ARIS, and SBAA scales, the SAMS exhibits the greatest similarity to the SBAA due to its construct alignment. While the SBAA, like the ARIS, is an advancement of the AOS, the primary differences between the SAMS, AOS, ARIS, and SBAA lie in the measurement of actual activism. The scientific significance of this study is in its ability to measure and compare both intentional and actual activism among young people.

Although many constructs in the analysis of the Social Activism Measurement (SAM) were analogous to those of the Symbolic Behavior Activism Assessment (SBAA), the construct of 'symbolic activism' did not pass the analysis for both intentional and actual activism. Following the guidelines of Pallant (2020), a minimum factor loading of .40 was used as the threshold for item retention. Items with loadings below this level were excluded, as they did not contribute sufficiently to a clear factor structure. In addition, items that demonstrated substantial cross-loadings—loading significantly on more than one factor—were removed due to a lack of uniqueness. Based on the factor loading, item 23 (.425 and .581), 27 (-.358), 28 (-.383) and 29 (-.307) were removed, resulting in the final 23-item scale with 5 components (Pallant, 2020). This exclusion is statistically substantiated, indicating that based on empirical data, the construct lacks significance. However, this does not preclude the possibility that this form of activism may be undertaken by young people in the future.

The results from hypotheses testing align with the Situational Theory of Problem Solving (STOPS) proposed by Kim and Grunig (2011). The STOPS theory posits that the level of individual involvement determines the extent of participation in passive or active communication (Kim and Grunig, 2011). Descriptive statistics revealed that young people who felt involved in an organization exhibited higher intentions compared to those who did not feel involved or were unaware. Furthermore, STOPS suggests that a higher level of problem recognition and involvement leads to more active communication behavior (see Kim & Grunig, 2011).

The construct of problem recognition cannot be quantified using the Social Activism Measurement (SAM). However, Figure 8 illustrates that young individuals who perceive themselves as involved exhibit higher scores in actual activism compared to those who do not feel involved or are unaware. Despite this, all scores remain below the average. The findings indicate that the group in question achieves an average score in intentional activism but falls below average in actual activism. The analysis focused on intentional and actual activism across all five constructs collectively.

The SAM results in two subscales: the Social Intentional Activism Measurement (SIAM) for activism intent and the Social Actual Activism Measurement (SAAM) for actual activism. Figure 5 demonstrates a correlation between intentional and actual activism, suggesting that

higher levels of activism intentions among young individuals are associated with increased levels of actual activism.

The outcomes of this study can support the longitudinal study by SYNC and Hot Politics Lab (2023) and provide a more realistic picture of actual activism across the five activism forms. Nevertheless, the results of this study indicate that Dutch young people score average on verbal activism but score below average on other forms. Marsh et al. (2007) encountered political dissatisfaction and alienation among young people and argued that this was a result of aversion to traditional forms. Marsh et al. (2007) emphasize that the decline in formal political participation is a problem of political exclusion rather than a lack of interest. Many young people feel marginalized or excluded from political decision-making, leading to their non-participation in traditional forms of politics. The results of this study do not confirm this dissatisfaction because their participation in activism is below average.

The limitations of this study include the incomplete implementation of the methodology proposed by Boateng et al. (2018). Although the analyses indicated good reliability of the scales, the methodology was not fully adhered to due to time and feasibility constraints. Specifically, omissions occurred in phase 2, step 3 (pre-test), step 5 (item reduction analysis), and phase 3, step 7 (tests of dimensionality) and part of step 9 (construct validity), which may have adversely impacted the reliability of the scale. Additionally, skipping Step 2, 'Evaluation with target group,' could have enhanced the researcher's understanding of activism among young people aged 18 to 25, thereby improving the comprehensibility of the items for respondents. Step 5, 'Item reduction,' was also not conducted. Performing Classical Test Theory and Item Response Theory analyses could have identified and modified or removed poorly performing items, resulting in a more efficient and effective scale. Furthermore, the SAAM measures actual activism, but as it is a self-report measure, it was discussed in Study 1 by the experts as a 'measurement problem.'

Another important methodological limitation in this study is the diversity and significant representativeness within the sample. A significantly larger group of women and scientifically educated people as opposed to men and practically educated people participated in the study. This may have affected the reliability and validity of the results, in particular hypothesis 2. It focused on the level of education of young people in the context of collective activism. For follow-up research, studies could use the SAM and focus on forms of activism of young people in relation to their socio-economic status. Research by Sloam et al. (2007) showed that progression to higher education has a greater impact on political participation and engagement among low-income young people than among high-income young people.

Hypothesis 1 examined the correlation between intentionally high risk and actual high risk. For subsequent research, these findings in relation to activist identity can be explored in greater detail. This can be achieved by incorporating the Activist Identity scale, as proposed by Jew and Tran (2020). This approach would yield valuable insights into how activist identity influences the intentions of young individuals. The study by Jew and Tran (2020) enhances the understanding of factors that may contribute to low-risk and high-risk activist intentions and underscores the significance of an activist identity for both.

The findings from this study have several practical implications. Within social interest, organisations that focus on youth activism can use the scale to monitor the growth of intentions and actual activism among young people. By conducting longitudinal research through the

SAM, policymakers can better respond to the changing needs and motivations of young people. By addressing the methodological limitations and implementing more robust research designs, future studies can provide more reliable and valid insights that are directly applicable in practice.

The aim of this research was to develop an instrument that can compare the intention to activism with the actual activism of young people between the ages of 18 and 25. This Social Activism Measurement Scale was validated through expert review and principal factor analysis (PCA), resulting in two scales. Both PCA revealed two five-component models that accounted for 68.250% (SIAM) and 71.247% (SAAM) of the total observed score variance (PCA extraction/Oblimin rotation) resulting in the two scales seen in section 4.3.

In addition, the results showed: (a) factors with a simple structure that corresponds to related literature, (b) high factor scores ($>.80$), but with double factor loads (c) the internal consistency was found to be very high for both models (SIAM $\alpha = .936$, SAAM $\alpha = .928$) and for each individual factor (.92-.95) and (d), in order to be able to predict future outcomes, online activism was found to be a good predictor for the other forms of activism. This outcome can be explained by the positive links between online communication and political participation, as found by Bakker and de Vreese (2011), and support the conclusion that online activism is a strong predictor of other forms of activism. Online communication plays a crucial role in mobilizing and connecting individuals for activist causes, facilitating the transition to other forms of activism. Various studies showed that young people who showed high political interest showed high activist behaviour and were politically engaged variables influenced by the young people's level of education. The third hypothesis could not confirm these findings. Although there may be various explanations for these outcomes, this hypothesis must be critically examined. Due to the low participation of young people who had secondary education as highest education compared to young people who had higher or scientific education, this may affect the results of the analysis.

The SAM, with SIAM subscales ($\alpha = .936$) and SAAM ($\alpha = .928$) demonstrate acceptable reliability and validity. This makes the main question for this research 'Which factors and items form valid and reliable scales of behaviour that measures intentional and actual activism?' answered with the above resulting scales. A promising tool for future research on youth activism has been created and is ready for further testing.

Declarations.

The research protocol was approved by the Ethical Commission of the Radboud University. The first author was responsible for the initial version of the paper and the first data analysis. The second author was involved in the conception and review of the paper and conducted additional data analyses. Both authors reviewed and approved the final version of the paper. No conflicts of interest were identified. During the preparation of this work, the authors used Microsoft Copilot in order to improve the readability of this paper. Authors reviewed and edited the content generated by this tool. The authors take full responsibility for the content of the published article.

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7. Appendices

7.1 Appendix A – Initial scales

The initial scales are provided below with the six constructs and twenty-nine items.

For the Intentional Activism Scale, participants were asked to score a statement like “I intend to<statement>”.

For the Actual Activism Scale, participants were asked to score a statement like “I have<statement>”.

Online activism

1. Post a status or tweet about the topic or organization
2. Share or retweet a post about the topic or organization
3. Comment on a post about the topic or organization
4. Like or favorite a post about the topic or organization
5. Like or follow social media pages/accounts related to the topic or organization
6. Join a group on Signal or Telegram related to topic or organization
7. Sign an online petition related to topic or organization

Oppositional activism

1. Engaging in an activity where I might put myself at risk
2. Block a building or public area with my body
3. Participate in an activity where I am likely to encounter counter-protesters
4. Engage in an activity related to the issue that may jeopardize relationships with family or friends
5. Participate in an activity where one can be arrested
6. Help in organizing or hosting an action related to topic or organization

Collective activism

1. Being an official in an organization
2. Meeting with policymakers to advocate for the issue/organization
3. Join a committee related to the issue
4. Attend an organization's regular planning meeting
5. Send a message (via email or social media) to elected officials to give my opinion
6. Help organize or host a political event related to the issue/organization

Dialogue activism

1. Discuss the issue/organization with family, friends, or others
2. Pay attention to information in the news about the issue/organization
3. Disputing someone else's view of the issue/organization
4. Confronting jokes, statements, or insinuations against the issue/organization
5. Actively search or collect information about the issue/organization

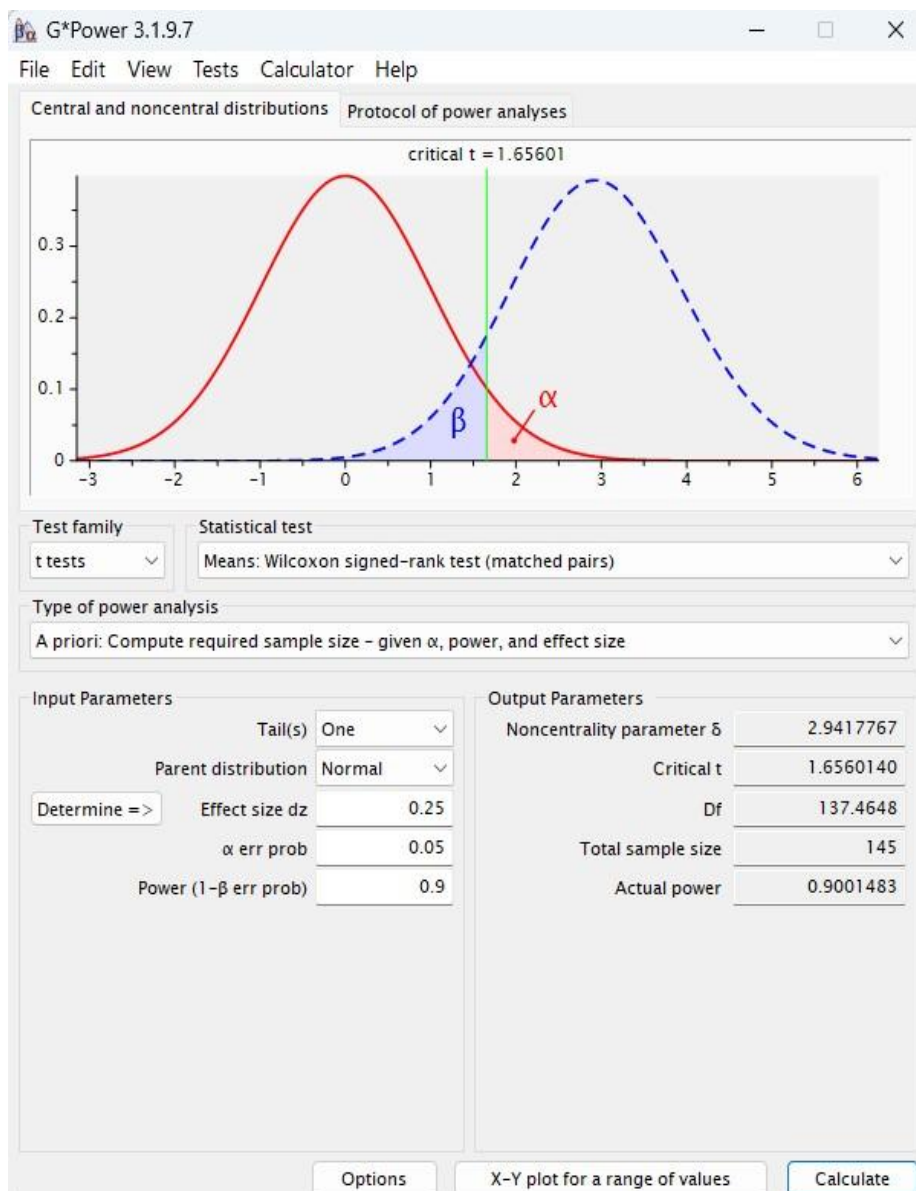
Symbolic activism

1. Wear a t-shirt or button or carry an item (tote bag, cup, etc.) related to the issue/organization
2. Buy a poster about the issue/organization

Financial activism

1. Contributing to a fundraiser or campaign related to the issue/organization
2. Donating money to the issue/organization that originated online
3. Make a financial contribution to the issue/organization

7.2 Appendix B – Sample size calculation with G*Power



7.3 Appendix 6 – Factor loading per Item SIAM

Factor lading per item SIAM

Item	I intend to...	Factor loading
1	post something about the issue(s) and/or organization(s)	.737
2	share a post about the issue(s) and/or organization(s)	.789
3	respond to a post about the issue(s) and/or organization(s)	.690
4	like a post about the issue(s) and/or organization(s)	.742
5	like or follow a social media page/account related to the issue(s) and/or organization(s)	.755
6	join a group on Signal and/or Telegram related to an issue and/or organization(s)	.473
7	sign an online petition related to the issue or organization	.607
8	participate in an activity that might put myself at risk	.726
9	physically block a public space with my body	.778
10	participate in an activity that is likely to meet counter-protesters	.712
11	participate in an activity that could endanger the issue and/or my family or friends	.783
12	participate in an activity where you can get arrested	.797
13	help organize an action related to the issue/organization	.692
14	take on an organizational role in a group related to the issue	.680
15	meet with policymakers to advocate for the issue/organization	.776
16	become part of a committee dealing with the issue	.794
17	attend a meeting or gathering organized around the issue	.812
18	send a message (via email or social media) to people in an organization to share my opinion	.705
19	help organize a political event related to the issue/organization	.730
20	discuss the issue/organization with family, friends, or others	.767
21	pay attention to news about the issue/organization	.715
22	speak out against another person's view on the issue/organization	.760
23	confront jokes, statements, or insinuations against the issue/organization	.746
24	seek or collect information about the issue/organization	.659

Item	I intend to...	Factor loading
25	wear or display an object (e.g., bag, cup, sticker) related to the issue/organization	.656
26	hang a poster or flag about the issue/organization	.656
27	participate in a fundraiser related to the issue/organization	.692
28	donate money occasionally to the issue/organization	.785
29	donate money regularly to the issue/organization	.726

7.4 Appendix 7 – Non-Rotated Component Matrix

Item	Component				
	1	2	3	4	5
I intend to help organize an action related to the issue/organization	.787				
I intend to participate in an activity where there is a chance of encountering counter-protesters	.779				
I intend to send a message (via e-mail or social media) to people in an organization to express my opinion	.778				
I intend to wear or display an object (e.g., bag, t-shirt, mug, sticker) related to the issue/organization	.764				
I intend to become part of a committee dealing with the issue	.760		-.472		
I intend to hang a poster or flag about the issue/organization	.758				
I intend to share a post about the issue(s) and/or organization(s)	.756			-.330	
I intend to help organize a political event related to the issue/organization	.738		-.308		
I intend to respond to a post about the issue(s) and/or organization(s)	.731			-.365	

Item	Component				
	1	2	3	4	5
I intend to contribute to a fundraiser related to the issue/organization	.726				
I intend to post something about the issue(s) and/or organization(s)	.696				
I intend to take on an organizational role in a group related to the issue	.690		-.401		
I intend to attend a meeting or gathering organized around the issue	.679		-.547		
I intend to sign an online petition related to the issue or organization	.668	-.352			
I intend to donate money occasionally to the issue/organization	.657	-.444			- .317
I intend to meet with policymakers to advocate for the issue/organization	.646		-.543		
I intend to like or follow a social media page/account related to the issue(s) and/or organization(s)	.639	-.420		-.355	
I intend to like a post about the issue(s) and/or organization(s)	.631	-.303	.315	-.375	
I intend to confront people who make jokes, statements, or insinuations against the issue/organization	.629	-.362			.325
I intend to pay attention to news about the issue/organization	.617	-.573			
I intend to participate in an activity where you can get arrested	.613	.503			
I intend to participate in an activity that might put myself at risk	.578	.532			

7.5 Appendix 8 – Pattern Matrix

	Item	1	2	3	4	5
1	To meet policymakers to advocate for the issue/organization	-.946				
2	To attend a meeting or gathering of an organization about the issue	-.916				
3	To become a member of a committee related to the issue	-.836				
4	To hold an organizational position in an organization related to the issue	-.749				
5	To help organize a political event related to the issue/organization	-.557				
6	To help organize an action related to the issue/organization	-.361		.365		
7	To share a post about the issue(s) and/or organization(s)		.713			
8	To like a post about the issue(s) and/or organization(s)		.805			
9	To comment on a post about the issue(s) and/or organization(s)		.674			
10	To post something about the issue(s) and/or organization(s)		.661	.308		
11	To like or follow a social media page/account related to the issue(s) and/or organization(s)		.743			
12	To actively participate in a group on Signal and/or Telegram related to an issue(s)		.460	.337		
13	To sign an online petition related to the issue		.355	-.355		
14	To participate in an activity where there is a chance of encountering counter-protesters			.390		
15	To physically block a building or public area			.868		
16	To participate in an activity that might endanger relationships with family or friends			.843		
17	To participate in an activity where I might put myself in danger			.763		
18	To participate in an activity where arrest is possible			.830		
19	To contradict someone else's view on the issue/organization				-.879	
20	To confront people making jokes, statements, or insinuations against the issue/organization				-.756	-.366
21	To discuss the issue/organization with family, friends, or others				-.824	
22	To pay attention to news information about the issue/organization				-.740	
23*	To actively seek or gather information about the issue/organization	.425			.581	
24	To donate money regularly					-.903

	Item	1	2	3	4	5
25	To donate money occasionally					-.583
26	To contribute to a fundraiser (an event to raise funds)					-.551
27*	To wear or stick an item (bag, t-shirt, cup, sticker, etc.) related to the issue/organization					-.358
28*	To hang a poster or flag about the issue/organization					-.383
29*	To send a message (via email or social media) to people in an organization to share my opinion					-.307

**Items 23, 27, 28, and 29 were removed based on factor loadings, resulting in the final 23-item scale.*

7.6 Appendix 9 – Oblimin Structure Matrix

	Item	1	2	3	4	5
1	I intend to share a post about the issue(s) and/or organization(s)	.832	-.306	-.498	.465	-.442
2	I intend to like a post about the issue(s) and/or organization(s)	.823	-.507	-.338		-.307
3	I intend to comment on a post about the issue(s) and/or organization(s)	.797		-.553	.436	-.389
4	I intend to follow or like a social media page/account related to the issue(s)/organization(s)	.794	-.574	-.374		-.371
5	I intend to post something about the issue(s) and/or organization(s)	.762		-.429	.569	-.427
6	I intend to actively participate in a Signal or Telegram group related to the issue(s)/organization(s)	.544		-.423	.533	
7	I intend to discuss the issue/organization with family, friends, or others	.392	-.879	-.356		-.354
8	I intend to contradict someone else's view on the issue/organization		-.861			-.395
9	I intend to pay attention to news about the issue/organization	.449	-.849	-.398		-.434
10	I intend to confront people making jokes/statements/insinuations against the issue/organization	.431	-.786	-.429		
11	I intend to sign an online petition related to the issue/organization	.590	-.600	-.410		-.558
12	I intend to join a committee related to the issue	.455	-.361	-.893	.354	-.465
13	I intend to attend a meeting related to the issue	.353	-.316	-.884	.323	-.364
14	I intend to meet policymakers to advocate for the issue/organization	.412		-.878		
15	I intend to hold an organizational position related to the issue	.437		-.816	.431	-.406

Item	1	2	3	4	5
16 I intend to help organize a political event related to the issue/organization	.351	-.305	-.747	.520	-.592
17 I intend to help organize an action related to the issue/organization	.496	-.345	-.677	.610	-.559
18 I intend to participate in an activity where I might get arrested	.378		-.368	.860	-.388
19 I intend to block a building or public area with my body	.308		-.330	.846	
20 I intend to participate in an action related to the issue that could endanger relationships with family/friends	-.377		.836		
21 I intend to participate in an activity where I might be in danger	.364	-.422	.819		
22 I intend to participate in an activity where there may be counter-protesters	.605	-.598		.633	-.516
23 I intend to donate money structurally related to the issue/organization			-.325		-.846
24 I intend to contribute to a fundraiser related to the issue/organization	.531	-.510	-.471		-.743
25 I intend to occasionally donate money related to the issue/organization	.473	-.616	-.428		-.742
26 I intend to hang a poster or flag about the issue/organization	.550		-.622	.527	-.630
27 I intend to wear or place an object/sticker related to the issue/organization (e.g., bag, shirt, mug)	.600	-.384	-.594	.413	-.627
28 I intend to send a message to an organization to express my opinion	.541	-.469	-.579	.492	-.611
29 I intend to contradict someone else's view on the issue/organization	.545	-.485		.431	
30 I intend to block a building or public area with my body	.533	.528			
31 I intend to actively participate in a Signal or Telegram group related to the issue(s)/organization(s)	.505	.376			
32 I intend to discuss the issue/organization with family, friends, or others	.562	-.611			
33 I intend to participate in an activity that could endanger relationships with family/friends	.527	.546			
34 I intend to donate money structurally related to the issue/organization	.520				-.647