# The Political Solidarity Measure: Development and Validation in University Student Samples

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**Abstract**

Political solidarity is often key to addressing societal inequities and injustice (Mallett, Huntsinger, Sinclair, & Swim, 2008; Scholz, 2009). Yet social psychology is without a common definition or comprehensive measure of this construct, complicating advancements in this burgeoning field. To address these gaps, across five computer-based studies of Canadian university student samples, I created and validated the Political Solidarity Measure (PSM). I conceptualized political solidarity as consisting of three factors: allyship with a disadvantaged outgroup, a connection to their cause, and a commitment to working with them to achieve social change. In Study 1, 1,594 participants completed the initial 30-item pool. A series of exploratory factor analyses, along with indices of factor retention (e.g., when $m = 3$, RMSEA.LB $< .06$, AIC $\Delta_i < 1$), supported the three-factor model. I retained three items per factor to create the 9-item PSM used in subsequent studies. Confirming this factor structure, a three-factor model adequately fit data collected for Study 2 ($N = 273$; Robust RMSEA = 08; Robust CFI = .97); I thus retained the three-factor model. In Study 3 ($N = 259$), I found evidence of the PSM's convergent validity ($r$s $\geq |.19|$, $p$s $\leq .03$), discriminant validity ($r$s $\leq |.10|$, $p$s $\geq .23$), and its medium-term (three to six month) retest reliability, $r(254) = .62$, $p < .001$. Study 4 ($N = 130$) also assessed retest reliability, but in the short-term (a three-week period), $r(121) = .60$, $p < .001$. Finally, I demonstrate the PSM's predictive validity in Study 5 ($N = 221$). Controlling for modern racism, PSM scores predicted collective action intentions and behavior benefitting the outgroup: Participants who reported higher political solidarity donated more to the outgroup's cause, $\beta = .25$, $t(215) = 3.21$, $p = .002$, and were more likely to agree to create a message of support, than not agree, $b(SE) = 1.09\ (0.27)$, $p < .001$, $OR = 2.98$, 95% CI [1.76, 5.05]. The PSM will enable measurement of political solidarity across issues and time, facilitate comparisons of

interventions to shift political solidarity, and add to knowledge of intergroup relations and social change.

*Keywords:* political solidarity, collective action, scale development, scale validation

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## Introduction

Despite much progress towards equality, many minority groups worldwide still seek equitable treatment. Consider the Canadian context. Women, for instance, earn less money than men do, even when considering hours worked, experience, and education (McInturff & Lambert, 2016). As youth, transgender students are more likely than their peers to experience verbal and physical harassment at school (Égale, 2011). These patterns of abuse continue throughout the lifespan, often coupled with structural barriers to employment and medical care, all of which contribute to physical and mental health struggles (Bauer & Scheim, 2015). Of particular gravity is the experience of Indigenous Peoples in Canada. Largely due to the legacy of Indian Residential Schools (Truth and Reconciliation Commission of Canada, 2015), Indigenous Peoples, compared to others in Canada, are overrepresented in the justice system (Reitano, 2017), are less likely to have clean running water (Neegan Burnside, 2011), and experience poorer health care (Allan & Smylie, 2015).

How can these and other striking inequities be rectified? In many cases, the work needed for social change is undertaken by members of the impacted groups themselves. Great strides for women's equality in Canada, including the right to vote and serve in senate, are largely due to the activism of Nellie McClung and the other women of the "Famous Five" (Historica Canada, 2015). A more recent example is the tireless advocacy of members of Shoal Lake #40 First Nation, a reservation near the Manitoba-Ontario boarder. For nearly 20 years, its residents have been unable to drink their tap water, while simultaneously providing drinking water to the nearby City of Winnipeg. One powerful instance of advocacy occurred in 2016, when Linda Redsky, a band member of Shoal Lake #40 First Nation, travelled to Geneva to address the United Nations on the state of her community's drinking water (CBC, 2016). Instances such as these, of people

fighting to advance the rights and dignities of their own group, are in some ways unsurprising; after all, one might intuit that ingroup members would know the most about their struggles and thus be most motivated to achieve equitable outcomes.[1]

Sometimes, however, ingroup-led activism is supported by the efforts of outgroup members. If done in a respectful and empowering way, the support of outgroup members can be an important part of reaching the ingroup's goals (but see Scholz, 2009). One way that outgroup members can do this is through raising awareness among their group. People sometimes react poorly to outgroup members who claim to have experienced discrimination, viewing them as complainers (Kaiser & Miller, 2011) or over-reactors (Czopp & Montieth, 2003), or disagreeing with them (Yeung, Kay, & Peach, 2014). When claims of discrimination against a group are instead presented by members of a non-impacted outgroup (especially by a perceiver's ingroup or a high status group), however, people tend to be more persuaded (Czopp & Montieth, 2003; Mallett, Huntsinger, Sinclair, & Swim, 2008). Outgroup members who belong to high status groups can be particularly impactful, as their relative social and economic power can be instrumental in advancing social change for the group (Mallett et al., 2008; Scholz, 2009). Such logic presumably underlies the HeForShe movement. Created by UN Women (2016), the campaign "invites men and boys to build on the work of the women's movement as equal partners, crafting and implementing a shared vision of gender equality that will benefit all of

[1] Note however, that minority group members do not always mobilize against, or even perceive, the objective disadvantages they face. For more information, please refer to the literatures of system justification theory (Jost, 2017; Jost & Banaji, 1994), depressed entitlement (Jost, 1997), critical consciousness (Freire, 1970), Social Identity Model of Collective Action (van Zomeren, Postmes, & Spears, 2008), belief in a just world (Hafer & Bégue, 2005; Lerner, 1980), and the queen bee syndrome (Staines, Tarvis, Jayaratne, 1974). See also Wright, Taylor, and Moghaddam (1990).

humanity." Towards their goal of increasing women's pay and representation in leadership roles, HeForShe asks men to leverage their privileged positions within companies and politics to be "champions for gender equality within their own organizations, [and encourages] them to question the status quo and commit to concrete action." Similarly, members of Shoal Lake #40 used "very strategic advocacy in getting White faces and conservatives onboard" (C. Cotten, Personal communication, January 14, 2016) to bring justice to their community. This involved partnering with White Winnipeggers, including Juno-award-winning Christian artist Steve Bell and conservative Member of Parliament Joy Smith, both of whom used their platforms to raise awareness of and support for the issue (Bell, 2015; CBC, 2015). According to Shoal Lake #40, the pressure elicited by these outgroup members is what compelled all levels of Canadian government to commit to bringing clean running water to Shoal Lake #40.

Instances such as these—of outgroup members supporting others in their quest for equality—are the focus of this dissertation. The main goals were to develop and validate a quantitative measure of this construct, termed *political solidarity*. To measure a construct, however, it is necessary to first define it; I do so below after describing some more general understandings of solidarity.

**Understandings of Solidarity Generally**

In 1910, sociologist J. Mark Baldwin lamented that "the difficulty of discussing such a topic as [solidarity] arises from the generality of the term" (p. 817); over a century later, his criticism may be even truer now, as many understandings of solidarity have emerged since. Although it had long existed in academic and religious circles (for historical reviews, see Metz, 1999; Scholz, 2009), "solidarity" entered public discourse in 1980 when the Soviet Bloc's first independent trade union formed and named itself Solidarność (Polish for "solidarity").

Solidarność's membership of over 9 million people earned Poles the right to form independent unions, better health care, freedom of speech, and many other liberties (Barker, 2005; BBC News, 1999; Solidarność, n.d.). In fact, Solidarność was largely responsible for the fall of communist rule (Hayden, 2006). Thus, Solidarność itself, as a proper noun, represents one dictionary definition of solidarity.

Another dictionary definition of solidarity, however, is "unity or agreement of feeling or action, especially among individuals with a common interest; mutual support within a group." This definition reflects more common usage than does Solidarność, yet it is more difficult to understand—in part because as Baldwin (1910) lamented, it is quite broad. An additional complication is that the definition leaves room for different social group memberships and status relations. As the above definition states, and like the trade union members of Solidarność, "solidarity" can emerge *among* members of the same social group (e.g., gender, class, religious affiliation, ethnicity, or nationality). Solidarity, however, sometimes also emerges *across* social groups. In the Catholic faith, solidarity is a core value that involves a dedication to care and seek justice for *all* people—particularly those on society's margins—not merely ingroup members (Catholic Social Teachings, n.d.-a; United States Conference of Catholic Bishops, 2018). The United Nations Millennium Declaration similarly defines solidarity as a value key to international relations, "wherein those who either suffer or benefit least deserve help from those who benefit most" (United Nations, 2005). Both the UN and Catholic understandings articulate a solidarity that extends beyond social group boundaries and power dynamics and is political. To distinguish this type of solidarity from within-group solidarity, such as Solidarność, as well as other forms of solidarity (e.g., social, civic; Scholz, 2009), some term it *political solidarity*.

## Political Solidarity

Like solidarity generally, there are various ideas of what exactly political solidarity is, even within social psychology. For the purposes of the current research, however, I define political solidarity as the degree to which a person "stands with" a minority outgroup and their cause and is committed to working alongside them to achieve the desired social change (see also Starzyk, Neufeld, El-Gabalawy, & Boese, 2018). In this definition and dissertation, I use "minority" and "majority" to respectively refer to social groups of lower and higher levels of social status, power, or privilege, in a given context; these labels may, but do not necessarily, correspond to the numeric size of these groups (Tajfel, 1981; van Zomeren et al., 2008; for an extended discussion on dimensions of "majority" and "minority", see Seyranian, Atuel, & Crano, 2008). The above conceptualization of political solidarity emerges from an examination of academic literature within and beyond social psychology, as well as the understandings and actions of related organizations and social movements. Based on this examination, political solidarity seems to consist of three related yet distinct components: allyship with the minority outgroup, a connection to their cause, and a commitment to social change. In the following sections, I review the academic literature and applied understandings that support each theorized component of political solidarity; afterwards, I clarify the types of status relations that constitute political solidarity, and comment on whether political solidarity is a state or trait.

### Components of political solidarity.

***Allyship with the minority outgroup.*** Regardless of the relative status relations of the involved groups, political solidarity is inherently relational, involving a feeling of allyship with the minority outgroup. To best understand allyship, it is helpful to delimit allyship and understandings of outgroup identification. Typically, social psychological conceptions of

ingroup solidarity (*not* political solidarity) view a strong sense of ingroup identification as either a precursor to or synonymous with ingroup solidarity (e.g., Leach et al., 2008). This makes sense: The more a person identifies with their group, the stronger should be their sense of ingroup solidarity. However, given that group identification stems from group membership (Tajfel & Turner, 1979), identifying with an outgroup is perhaps less natural or common than identifying with one's ingroup (Neufeld, Gaucher, Starzyk, & Boese, 2018), thereby minimizing the potential for a parallel process of outgroup identification to occur for political solidarity. That is not to say that identification plays *no* role in allyship specifically or political solidarity more generally. On the contrary, experimental evidence demonstrates that solidarity can arise from a common or superordinate identity with the outgroup, such as following reminders of similarities in discrimination experiences (Cortland et al., 2017; Craig & Richeson, 2012). Rather, the point is that the link between a common identity and political solidarity will not always arise. For one, efforts to forge a new common ingroup identity can backfire, such as by lessening solidarity (Craig & Richseon, 2014, 2016) or increasing hostility and intergroup competition (Noor, Shnabel, Halabi, & Nadler, 2012). Relatedly, evoking a common identity also runs the risk of minimizing important group differences in lived experience (Dovidio, Gaertner, & Saguy, 2007; Shnabel, Halabi, & Noor, 2013) or ignoring injustices and power imbalances (Saguy, 2017; Saguy, Taush, Dovidio, & Pratto, 2009; Wright & Baray, 2012), all of which can be key to addressing the social injustice at hand (hooks, 1984; Scholz, 2009; Shnabel & Ulrich, 2016). Further, a person can experience political solidarity with an outgroup without experiencing the same disadvantage and may therefore be unable to identify with the group on the basis of that disadvantage. Think back to the White Winnipeggers—all of whom had clean tap water—who campaigned for the Indigenous Peoples of Shoal Lake #40. For these reasons,

identification with the minority outgroup may sometimes be part of allyship but is not a necessary component. To illustrate, imagine that you have a singular and strong gender identity: you identify as a man. Likely, you would not also strongly identify as a woman or with women. Yet when thinking about women and their fight for income equality, you might have feelings of "brotherhood" or "sisterhood" towards women; you might also feel a sense of connection or unity with them, all while recognizing that they are a different group with distinct experiences and struggles. Put differently, it is "a form of unity that mediates between individual and community" (Scholz, 2009, p. 19). I collectively refer to these feelings as allyship.

***Connection to the minority outgroup's cause.*** As hinted at in the above example about a man's political solidarity with income equality for women, allyship can stem from a connection to the outgroup's cause—another important part of political solidarity. To be clear, cause connection and allyship do not have a unidirectional relationship; their relationship can be bi-directional and mutually reinforcing. Here, "cause connection" refers to feelings of responsibility to the minority outgroup's cause and viewing it as important, so much so that as Subašić, Reynolds, and Turner (2008) write, a person develops "a sense of common cause" (p. 331) and "comes to embrace the minority's cause as [one's] own" (p. 331).

The articulation of cause connection is reminiscent of research on opinion-based groups and collective action (Bliuc, McGarty, Reynolds, & Muntele, 2007; Cameron & Nickerson, 2009; McGarty, Bliuc, Thomas, & Bongiorno, 2009). Opinion-based groups are not defined by membership in and identification with a social category (e.g., gender) but are defined by a shared opinion about a particular social or political issue. Further, opinion-based group membership is associated with collective action (see also Simon & Klandermans, 2001; van Zomeren et al., 2008). A clear, relevant example of an opinion-based group is feminism. Feminism entails a set

of particular beliefs about gender-equality to which anyone can ascribe. Because feminism is typically associated with womyn's issues, cismen are in some ways the outgroup. But even cismen can be feminists if they agree with the opinions of feminism. Unlike feminism, however, many causes do not have a unique group label ("feminism") or identity ("feminists") that define those who agree with the group's opinion. I therefore use the term "cause connection" instead of "opinion-based group membership" in my conceptualization of political solidarity. In doing so, I also aim to minimize confusion as to whether political solidarity is an ingroup or outgroup matter (to reiterate, it is an outgroup matter). In any case, political solidarity involves more than merely agreeing that a cause is important—it also involves a commitment to do something about it.

***Commitment to social change.*** True to its name, political solidarity is political; with that comes the notion that political solidarity involves a commitment to work alongside the outgroup for social change. Consider, for instance, the political agreement of Solidarity-US (2013), which unites many different social groups. Their document is riddled with calls for radical social change, including that which "shatters the foundations of patriarchy, white supremacy, settler-colonialism, and capitalist rule" ("Basis of Political Agreement", point 3). The idea of a commitment to social change is consistent with academic theorizing about political solidarity. For instance, Subašić et al. (2008) asserted that political solidarity involves "not only help[ing] the minority but also challeng[ing] the authority and the status quo" (p. 345) as well as "existing intergroup power relations [to] achieve social change" (p. 331). Similarly, in differentiating political solidarity from other forms of solidarity, philosopher Scholz (2009) argues that political solidarity is uniquely characterized by "a conscious commitment to join with others in struggle to challenge a perceived injustice" (p. 34).

**Political solidarity within and across status categories.** As per above, political solidarity involves feelings towards a minority outgroup and their cause. But what is the group status of the person feeling political solidarity? Most frequently, social psychologists have studied the political solidarity of a majority group member for a minority outgroup (Calcagno, 2017; Glasford & Calcagno, 2012). Stavrova and Schlösser (2015), for instance, assert that "solidarity denotes a process by which a *privileged group or individuals* [emphasis added] realize that others are unjustly disadvantaged and engage in a collective action directed at improving the others' fate" (p. 2). That definition is rooted in Subašić et al.'s (2008) political solidarity model of social change. Taking a social identity approach (Turner & Reynolds, 2001), these authors view political solidarity as a process by which a majority group de-identifies with the oppressive authority and increasingly identifies with the minority outgroup. Examples of this sort of status dynamic include men's solidarity with women and feminism (Wiley, Srinivasan, Finke, Firnhaber, & Shilinsky, 2013) and the #HeforShe campaign described earlier, as well as Whites' solidarity with those negatively impacted by the 1919 Tulsa Race Riots (Greenwood, 2015). These examples are consistent with the UN's (2005) definition of solidarity, provided earlier, which calls on those who benefit most societally (majority group members) to help those who suffer most (a minority outgroup).

Although relatively less studied by social psychologists, political solidarity certainly also emerges among minority-minority status relations. For instance, social psychologists have documented political solidarity across racial and ethnic groups, such as Blacks for Hispanics in the United States (Craig & Richeson, 2012; Glasford & Calcagno, 2012), non-Indigenous ethnic minorities for Indigenous Peoples in Canada (Starzyk et al., 2018), and Black and Indian residents in post-Apartheid South Africa (Dixon, Durrheim, Thome, Tredoux, Kerr, & Quayle,

2015). Others have examined the solidarity of racial minorities towards groups not necessarily defined by race, such as the political solidarity of racial minorities in India and the United States towards those seeking asylum in their respective countries (Vollhart, Nair, & Tropp, 2016), or among racial, gender, and sexual minorities (Craig & Richeson, 2014; Greenwood, 2008). Moving the study of interminority political solidarity beyond typical demographic categories, Subašić, Schmitt, and Reynolds (2011) assessed the solidarity of consumers who were (ostensibly) victimized by corporations towards garment workers victimized by the same corporations. Thus, political solidarity often describes either majority-minority relations or minority-minority relations (but see Calcagno, 2017); in the context of this dissertation, "political solidarity" refers to both of these relations.

**Is political solidarity a state or a trait?** While some authors treat political solidarity as synonymous with political action (i.e., an outcome; Glasford & Calcagno, 2012), others view political solidarity as a process (e.g., Subašić et al., 2008); as demonstrated in my above conceptualization of political solidarity, I fall in the latter camp. If political solidarity is thought of as a process, then it cannot be a highly stable psychological trait, such as intelligence or personality variables (Conley, 1984). Further, it is difficult to imagine a person who would have a fixed level of solidarity for all groups and causes; presumably, a man would not have equivalently high political solidarity with women who fight for reproductive rights and women who fight for abortion bans. Political solidarity is instead a relatively less stable psychological state that can be influenced by a variety of factors. For instance, political solidarity can change over time, for a variety of reasons: the focus of the cause may shift (to one a person agrees with more or less), as might an individual's priorities or knowledge about the cause. Thus, although

political solidarity for a specific group and cause might be highly stable in the short term, it may not be in the long term; this is true of other attitudes towards social issues (Conley, 1984).

In sum, understandings of solidarity and political solidarity vary within and beyond social psychology. The lack of a clear singular definition poses issues for integrating findings, advancing theory, and measurement. Based on the above review, however, it seems political solidarity is a state that may consist of a majority or minority group member's allyship with a minority outgroup, connection to their cause, and commitment to working alongside them for social change. Now that a theory of political solidarity is advanced and the construct is defined, it is possible to measure this construct.

**The Case for a Measure of Political Solidarity**

No existing measures capture political solidarity as it is articulated above. Existing measures of solidarity—whether in the context of within group, interminority, or political solidarity—are typically uni- or bi-dimensional. For instance, existing measures assess positive emotions towards the group (Dragojevic & Giles, 2014; Wheeles, 1976), identification with the group (Doosje, Ellemers, & Spears, 1995; Leach et al., 2008; Wiley et al., 2013), and beliefs that the ingroup and outgroup should "stick together" (Glasford & Calcagno, 2012, Study 1). Other measures relate to various forms of support, such as prosocial attitudes towards the outgroup (Stavrova & Schlösser, 2015; Vollhardt, Nair, & Tropp, 2016), expressions of support for resolving the outgroup's issue (Cortland et al., 2017), empathic concern towards the outgroup (Papacostas, 2012), and collective action intentions to help address the outgroup's issue (Chayinska, Minescu, & McGarty, 2017; Dixon et al., 2017; Glasford & Calcagno, 2012, Study 2; Saab, Tausch, Spears, & Cheung, 2015; Subašić et al., 2011). A notable exception to the uni- or bi-dimensional measurement of solidarity comes from Smith, McGarty, and Thomas (2018),

who assessed Twitter users' solidarity with refugees by coding the proportion of their tweets that communicated pro-refugee sentiment, affiliation, loyalty, and collective action. Though appropriate in certain situations, none of these measures can assess the tripartite political solidarity advanced earlier. Imagine, for example, studying men's political solidarity with women with only a measure of positive emotions towards women, which is somewhat akin to the understanding of allyship articulated above. A benevolently sexist (Glick & Fiske, 1997) man might have very positive emotions towards women, such as warmth and trust. But because benevolent sexism involves wanting to keep women in subordinate societal roles, he would likely not feel connected to women's movements or be committed to engendering gender equality. Measuring only positive emotions as an indicator of political solidarity would in this case lead to a false positive, ignoring the important facets of cause connection and commitment to social change. In order to build a comprehensive theory and body of literature on political solidarity, it is necessary to develop a more comprehensive measure that taps each of the three hypothesized components.

A comprehensive measure of political solidarity would also yield practical benefits and applications. For example, it could facilitate the comparison of political solidarity for different minority groups and their causes, which may have implications for public education efforts. Similarly, such a measure would reveal groups of people whose political solidarity is notably high or low; with this information, researchers, advocates, and researcher-advocates could tailor interventions according to a demographic's existing solidarity levels. Those interested could also track political solidarity over time, such as in response to world events, advocacy campaigns, or laboratory-based interventions. A political solidarity measure would also facilitate cross-study comparisons of impacts of efforts to imbue solidarity. Although this kind

of comparison is of course possible when each study uses a different measure, an advantage of using the same, comprehensive measure is that it would provide a cleaner comparison: differences in effect sizes due to differences in outcome measurement would be minimized (and virtually eliminated if administered identically). As the body of research on political solidarity grows, so too does the need for a validated, comprehensive measure.

**The Current Research**

The primary goal of the current research was to develop and empirically validate a comprehensive measure of political solidarity, the Political Solidarity Measure (PSM). Best practices in scale development recommend a four-step process (Furr, 2011). Step 1 is to define the concept and context. As outlined earlier, I conceptualized political solidarity as consisting of three factors: Allyship, Cause Connection, and Social Change Commitment. Although I hope that the PSM will be used in a variety of settings (each of which will require further validation; Furr, 2011), the envisioned primary context for PSM use is social psychological studies, which typically involve computer-based university student samples. Step 2 is to assemble a preliminary group of items intended to reflect the hypothesized factors. During summer 2015, I and two experts in the psychology of social justice created 30 items, 10 per each hypothesized factor. Across five computer-based survey studies with university student samples, I completed Steps 3 (collect data) and 4 (verify the measure's quality). In Study 1, I conducted an exploratory factor analysis to assess the items' underlying factor structure and selected items to form the final 9-item scale. A confirmatory factor analysis verified the items' factor structure in Study 2. In Studies 3 and 4, I assessed the PSM's test-retest reliability to determine its stability in the short-term (i.e., 3 week) and medium-term (i.e., 3-6 months), respectively; I did not have a specific hypothesis regarding the level of stability. To show that the PSM relates to (but is not redundant

with) theoretically-relevant constructs (e.g., compassion), and is distinct from theoretically-irrelevant constructs (i.e., personal acquaintance), Study 3 also tested the PSM's convergent and discriminant validity by assessing its correlations with such constructs. Finally, to establish the PSM's predictive validity, Study 5 participants could choose to engage in collective action benefitting a minority outgroup; I expected that higher PSM scores would positively associate with collective action behaviors and intentions.

## Study 1: Exploratory Factor Analysis and Construction of the Political Solidarity Measure

The goal of Study 1 was to create the final set of items for the political solidarity measure (PSM) by testing the factor structure of a larger pool of items. Based on my literature review and theorizing, I expected three factors might emerge: Allyship, Cause Connection, and Social Change Commitment. Despite having a hypothesis about the factor structure, an exploratory factor analysis was more appropriate than a confirmatory factor analysis because no prior research has investigated or suggested this factor structure (Finch & French, 2015). So that the scale could be easily used in future research, I also aimed to create a brief scale.

### Method

**Participants.** The initial sample comprised 1,775 participants from the University of Manitoba's Introduction to Psychology research participation pool; participants received a research participation credit towards their course grade. I excluded participants who did not complete an outgroup version of the PSM (to ensure I was assessing political solidarity; $n = 64$), who did not complete all of the PSM items (a requirement of the statistical analyses; $n = 112$), or who completed the survey in fewer than 5 minutes ($n = 13$). The final sample comprised 1,594 participants who were on average 19.85 ($SD = 4.40$) years old; 69% were women, 53% were White (see Table 1 for further demographic information). This study was part of a fall 2015

Table 1

*Study 1: Participant Demographics*

| | *n* | % |
|---|---|---|
| Gender Identity | | |
| Male | 494 | 31.0 |
| Female | 1098 | 68.9 |
| Gender Fluid | 1 | 0.1 |
| Other, Not Specified | 1 | 0.1 |
| Ethnicity | | |
| Arab (E.g., Egyptian, Kuwaiti, Libyan) | 26 | 1.6 |
| Black (E.g., African, Nigerian, Somali) | 98 | 6.1 |
| Chinese | 63 | 4.0 |
| Filipino | 219 | 13.7 |
| Indigenous (First Nations, Métis, Inuit, Non-Status Aboriginal) | 81 | 5.1 |
| Japanese | 2 | 0.1 |
| Korean | 22 | 1.4 |
| Latin American (E.g., Chilean, Costa Rican, Mexican) | 14 | 0.9 |
| South Asian (E.g., Bangladeshi, Punjabi, Sri Lankan) | 91 | 5.7 |
| Southeast Asian (E.g., Vietnamese, Cambodian, Malaysian, Laotian) | 27 | 1.7 |
| West Asian (E.g., Afghan, Assyrian, Iranian) | 11 | 0.7 |
| White | 851 | 53.4 |
| Visible Minority (E.g., Pacific Islander, Guyanese) | 11 | 0.7 |
| Multiple Visible Minorities | 13 | 0.8 |
| Other | 62 | 3.9 |
| Highest Level of Education Obtained | | |
| Completed High School (Grades 12, 13 or OAC) | 813 | 51.0 |
| Community College/Vocational/ Trade School/Commercial/CEGEP | 51 | 3.2 |
| Some University | 680 | 42.7 |
| Completed University | 29 | 1.8 |
| Post-Graduate University/Professional School | 15 | 0.9 |
| Annual Household Income | | |
| Under $30,000 | 210 | 13.2 |
| $30,000-$60,000 | 334 | 21.0 |
| $60,000-$80,000 | 298 | 18.7 |
| $80,000-$100,000 | 259 | 16.2 |
| $100,000 and Over | 374 | 23.5 |
| Country of Birth | | |
| Canada | 1131 | 71.0 |
| Another Country | 460 | 28.9 |

*Note*. For all questions except gender, 3 (0.02%) participants did not provide responses.

mass-testing survey. This sample size is sufficiently large that the factor structure is likely to generalize to similar samples (Clark & Watson, 1995; DeVellis, 2012; Tinsley & Tinsley, 1987; Williams, Brown, & Onsman, 2010).

**Procedure and materials.**

***Item pool generation.*** During Summer 2015, my co-supervisors (both social justice scholars) and I generated an initial pool of 30 items, or 10 items per hypothesized factor (see Appendix A). We followed instructions that included a definition of political solidarity, a definition and example item for each hypothesized factor, and a list of best practices in item-writing (Clark & Watson, 1995; DeVellis, 2012; Furr, 2011), such as avoiding double-barreled items and using clear, simple language. To ensure future researchers could easily adapt the items, items did not refer to a specific group or issue. We independently wrote items and created the 30-item pool through discussion.

Expert recommendations for scale development informed the number of responses and their labeling. There are seven possible responses for each PSM item: 1 = *strongly disagree*; 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neither disagree nor agree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*. Experts consider seven response options to provide the ideal balance of "fine-gradation, subtlety, and psychometric quality" (Furr, 2011, p.18). All responses were labeled descriptively (e.g., "strongly agree") because doing so improves the psychometric quality of responses when there are no more than seven options (Furr, 2011).

***Item reduction and selection.*** After providing informed consent (Appendix B), participants completed the PSM items as part of a larger online survey about various social groups and issues; for brevity, only the relevant measures and procedures are reported here. At the start of this study, participants provided demographic information. Midway through the

study, participants read a description about one of six sets of minority group issues (see Appendix A for descriptions); the survey software used participants' demographic information to ensure they were randomly assigned to read about an *outgroup* issue. Appendix C shows the breakdown of participants who completed each issue, for all reported studies. The rationale for this variety of issues (not only in Study 1 but also Studies 2-4) was to maximize the possibility of each participant having an outgroup issue, and subsequently increase the potential generalizability of this research. After reading one of six issue descriptions, participants then completed the 30 initial political solidarity items, which were auto-populated with the corresponding group name. This study was approved by the University of Manitoba Human Research Ethics Board.

**Results**

***Preliminary analyses*.** I inspected my data using SPSS Software (v. 21). Table 2 contains the descriptive statistics for the initial 30 items; their covariance matrix is reported in Appendix D. I conducted several tests to assess the data's suitability for factor analysis: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy, Bartlett's Test of Sphericity, and the determinant score of the correlation matrix. KMO values range from 0 to 1 and indicate whether the data's variance may be due to latent factors; values near 1 suggest a factor analysis would usefully describe the data. The KMO value was .98. The Bartlett's Test of Sphericity also indicated that factor analysis was appropriate, $\chi^2(435) = 46{,}144.08$, $p < .001$. A significant $p$ value for this test signifies that the correlation matrix is not an identity matrix, or in other words, indicates that the data are related. Further inspection of the correlation matrix revealed that all inter-item correlations were above the suggested minimum of .30 and below the suggested maximum of .90 (indicating non-redundant relationships), and its determinant was above 0

Table 2

*Study 1: Descriptive Statistics for Initial PSM Item Pool*

| | *M* | *SD* | Skew (SE) | Kurtosis (SE) |
|---|---|---|---|---|
| I feel a sense of "brotherhood" or "sisterhood" with X | 4.17 | 1.55 | -0.15 (.06) | -0.41 (.12) |
| X can count on me to be their ally | 5.21 | 1.42 | -0.79 (.06) | 0.45 (.12) |
| X and I are "all in this together" | 4.80 | 1.50 | -0.47 (.06) | -0.16 (.12) |
| I stand in solidarity with X | 4.91 | 1.42 | -0.51 (.06) | 0.08 (.12) |
| I feel a sense of solidarity with X | 4.64 | 1.44 | -0.38 (.06) | -0.08 (.12) |
| It's important for me to stick together with X | 4.76 | 1.49 | -0.41 (.06) | -0.17 (.12) |
| I stand united with X | 5.03 | 1.46 | -0.68 (.06) | 0.25 (.12) |
| In some ways, I have a sense of responsibility toward X | 4.26 | 1.54 | -0.26 (.06) | -0.39 (.12) |
| I would say I am loyal to X | 4.88 | 1.49 | -0.46 (.06) | -0.14 (.12) |
| I feel committed to X | 4.47 | 1.51 | -0.32 (.06) | -0.24 (.12) |
| In some ways, I view X's cause as my cause too | 4.10 | 1.49 | -0.14 (.06) | -0.34 (.12) |
| X's cause is important to me | 4.87 | 1.42 | -0.59 (.06) | 0.21 (.12) |
| I identify with X's cause | 4.21 | 1.46 | -0.18 (.06) | -0.28 (.12) |
| I think X's cause is worthy | 5.56 | 1.34 | -1.14 (.06) | 1.40 (.12) |
| I share X's goal | 4.56 | 1.51 | -0.40 (.06) | -0.21 (.12) |
| I feel partly responsible to ensure that X's interests are met | 4.23 | 1.48 | -0.23 (.06) | -0.25 (.12) |
| Working together to achieve X's goal is important to me | 4.71 | 1.45 | -0.52 (.06) | 0.07 (.12) |
| I have a role to play in X's cause | 4.39 | 1.46 | -0.37 (.06) | -0.13 (.12) |
| I am committed to supporting X's cause | 4.79 | 1.43 | -0.51 (.06) | 0.09 (.12) |
| I feel connected to X's cause | 4.28 | 1.46 | -0.25 (.06) | -0.26 (.12) |
| Policies negatively affecting X should be changed | 5.61 | 1.32 | -1.12 (.06) | 1.25 (.12) |
| All citizens should be better informed about how X are disadvantaged by policies | 5.52 | 1.32 | -1.10 (.06) | 1.38 (.12) |
| More people should know about how X are negatively affected by this issue | 5.63 | 1.29 | -1.24 (.06) | 1.90 (.12) |
| It's important to challenge the power structures that disadvantage X | 5.36 | 1.33 | -0.89 (.06) | 0.87 (.12) |
| Power structures that disadvantage X are unfair | 5.52 | 1.34 | -1.05 (.06) | 1.13 (.12) |
| Policies and laws that are unfair to X must be changed | 5.64 | 1.32 | -1.14 (.06) | 1.33 (.12) |

| | | | | |
|---|---|---|---|---|
| The way that the authorities treat X is unjust | 5.01 | 1.52 | -0.62 (.06) | -0.04 (.12) |
| We need policies that will grant equal rights to X | 5.73 | 1.29 | -1.30 (.06) | 1.94 (.12) |
| I believe social systems should change so they guarantee equality for X | 5.50 | 1.37 | -1.03 (.06) | 1.01 (.12) |
| Fighting for social justice for X means fighting for the social good | 5.43 | 1.34 | -0.95 (.06) | 1.07 (.12) |

*Note.* All items used a 1-7 scale and had a range of 1-7.

(indicating non-multicollinearity; Yong & Pearce, 2013). Together these results suggested that the data were appropriate for factor analysis.

**Main analyses.**

***Factor extraction method.*** Various factor extraction methods exist. When data are relatively normally distributed, that is, skew is less than 2 and kurtosis is less than 7 (Field, 2009; West, Finch, & Curran, 1995), as they are in this case, the maximum likelihood method is typically preferred as it "allows for the computation of a wide range of indexes of the goodness of fit of the model [and] permits statistical significance testing of factor loadings and correlations among factors and the computation of confidence intervals" (Fabrigar, Wegener, MacCallum, & Strahan, 1999, p. 277; see also Costello & Osborne, 2005). Given theorists' preference for maximum likelihood and that the data were not severely non-normal, I chose this factor extraction method.

*Number of factors retained for rotation (m).* I considered multiple criteria when determining how many factors to retain for rotation (denoted as *m*; Costello & Osborne, 2005; Fabrigar et al., 1999). Based on the results of a parallel analysis (Horn, 1965), root mean square error of approximation lower bound (Preacher, Zhang, Kim, & Mels, 2013), and an information criterion (Akaike, 1974), detailed below, I retained 3, 4, and 5 factors for rotation.

*Parallel analysis.* A parallel analysis (Garrido, Abad, & Ponsoda, 2013; Horn, 1965) suggests the number of factors to retain based on a Monte Carlo simulation. For decades, this technique was regarded as superior to the commonly used scree test (Cattell, 1966) and Eigen-value-greater-than-one rule (Kaiser, 1960) methods, because the parallel analysis is comparatively less variable and sensitive (Glorfeld, 1995; Ledesma & Valero-Mora, 2007; Velicer & Jackson, 1990; Zwick & Velicer, 1986). Despite these desirable attributes, parallel analysis was not commonly known or used because the required software was not widely available, necessitating laborious hand calculations (Costello & Osborne, 2005; Ledesma & Valero-Mora, 2007). Today, however, there are many options for completing parallel analysis, such as Revelle's (2018; v. 1.8.4) psych package for R Software (version 3.4.4). I used this package to conduct the parallel analysis, specifying a 95th percentile and that eigen values were found after estimated communalities using squared multiple correlations. Except where otherwise stated, I used this package for all Study 1 analyses. This parallel analysis suggested $m = 6$ (see Figure 1). Given that parallel analysis may overestimate the number of factors and retain poorly defined ones (Glorfeld, 1995), O'Connor (2000) suggests using this *m* as a starting point and using other methods to discern whether further trimming is necessary. Relatedly, although parallel analysis is considered the best of the Eigen-value methods, some question whether Eigen-value criteria should be used at all to inform factor selection because these criteria are not theoretically-driven (Preacher et al., 2013; see also Cudeck & Henly, 1991). Instead, these theorists advocate for criteria based on discrepancy of approximation, which reflects the "true" number of factors (i.e., verisimilitude), and on overall discrepancy, which reflects generalizability. I chose the root mean square error of approximation-lower bound (Browne & Cudeck, 1992; Preacher et al., 2013) as my discrepancy of approximation criterion and a

modified information criteria (Akaike, 1974; Browne & Cudeck, 1992) as my overall discrepancy criterion. Guided by the parallel analysis, I calculated these criteria and chi-square goodness of fit tests for 1 through 5 factor solutions.

*An information criterion.* Akaike's information criterion (AIC; Akaike, 1974) aids model selection by identifying simple models that accurately describe the data and are therefore likely to generalize (cross-validate) in another sample (Preacher et al., 2013). Table 3 provides AIC point estimates and their 90% confidence intervals for each *m*, calculated using

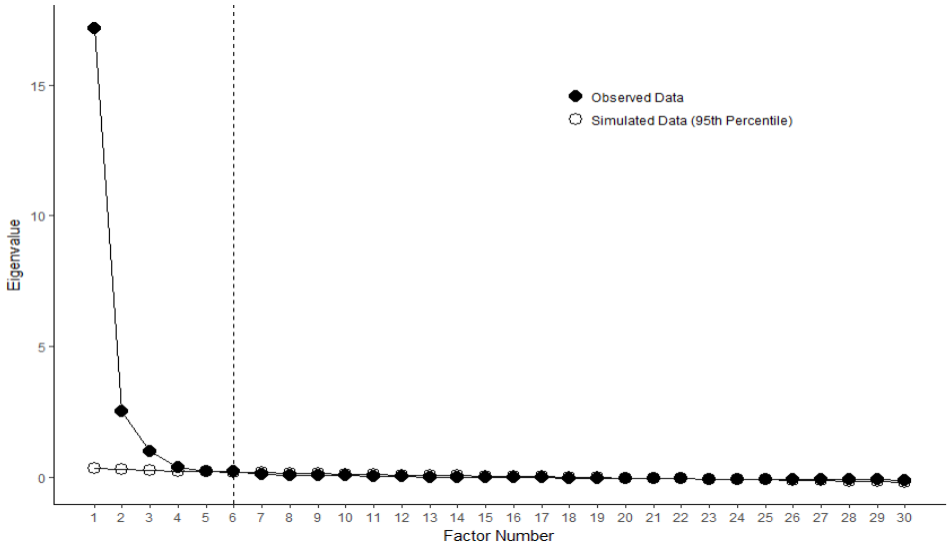


*Figure 1.* Study 1: Results of parallel analysis.

Table 3

*Study 1: RMSEA, AIC, and Goodness of Fit Indices for 1-5 Factor Models*

| *m* | Root Mean Square Error of Approximation-Lower Bound | | An Information Criterion | | | Goodness of Fit | | |
|---|---|---|---|---|---|---|---|---|
| | Point Estimate | 90% CI | Point Estimate | 90% CI | $\Delta_i$ | $\chi^2$ | *df* | *p* |
| 1 | 0.131 | [0.129, 0.134] | 7.331 | [7.113; 7.553] | 6.50 | 11,474.57 | 405 | <.001 |
| 2 | 0.084 | [0.081; 0.086] | 2.977 | [2.842; 3.116] | 2.11 | 4,528.98 | 376 | <.001 |
| 3 | 0.057 | [0.054; 0.059] | 1.482 | [1.393; 1.576] | 0.61 | 2,110.19 | 348 | <.001 |
| 4 | 0.048 | [0.046; 0.050] | 1.123 | [1.049; 1.201] | 0.25 | 1,487.62 | 321 | <.001 |
| 5 | 0.040 | [0.037; 0.043] | 0.872 | [0.812; 0.936] | 0.00 | 1,039.36 | 295 | <.001 |

*Note*. *m* = number of factors to retain.

Comprehensive Exploratory Factor Analysis software (version 3.02; Browne, Cudeck, Tateneni, & Mels, 2008). In general, the lowest point estimate is considered the most likely to generalize (in this case, the five-factor model); however, it is not the only model that might generalize. To determine whether other models might generalize, I calculated the difference between each point estimate and the smallest point estimate ($\Delta_i$). These differences indicate the empirical support for retaining the model in terms of its potential for generalizability (Burnham & Anderson, 2002). As a rule of thumb, $\Delta_i$ values below 2 signify substantial empirical support, values between 4 and 7 signify substantially less support, and values above 10 indicate there is virtually no empirical support for selecting the model. The results therefore suggest it is appropriate to retain 3-5 factors if wanting a model that is likely to generalize.

*Goodness of fit.* The $\chi^2$ statistic is the most commonly reported model fit statistic (Jackson, Gillaspy, & Purc-Stephenson, 2009). Despite the test's widespread popularity, it is problematic (Jackson et al., 2009; Jöreskog, 1969; Kenny, 2015). Of most relevance, a non-significant result indicates good model fit, but because $\chi^2$'s calculations involve (and do not correct for) sample size, the probability value is very likely significant when the sample size is greater than 200 (Kenny, 2015). Given that $N$ = 1,594 in the current study, it was unreasonable to expect a nonsignificant $\chi^2$; regardless, Table 3 contains $\chi^2$ values for convention's sake.

***Rotation method.*** To simplify and clarify the data structure, I used an oblique rotation method, oblimin with delta = 0. Oblique rotation methods have numerous advantages over their orthogonal counterparts and are more commonly used in the social sciences (Fabrigar & Wegener, 2012). One important difference is that oblique rotation methods allow (but do not require) factors to correlate, whereas orthogonal rotations do not allow correlated factors. I thus chose the oblique rotation method as I expected the factors would correlate.

***Model selection.*** Informed by the results of the parallel analysis (which suggested fewer than six factors) as well as the AIC and RMSEA.LB estimates (which suggested three to five factor solutions might generalize and approximate verisimilitude), I rotated three, four, and five factor solutions. To select the final PSM model, I visually inspected the magnitude of the factor loadings (Table 4) and item language for each solution, comparing their conceptual clarity (Fabrigar & Wegener, 2012). The three-factor model is conceptually clear and maps the hypothesized structure. These three factors are also present in the four and five factor models; however, the additional factors are not interpretable. For instance, in both models, a single item represents Factor 4, and does so poorly: that item's factor loading is at or near the conventional cut-off of .35 (Clark & Watson, 1995) and cross-loads on other factors (which is generally undesirable; Fabrigrar & Wegener, 2012). Also, factors should be represented by at least three items (Eisinga, Grotenhuis, & Pelzer, 2013; Furr, 2011). Based on these considerations, the hypothesized three factor solution seemed most appropriate.

***Item selection.*** I retained nine items to form the Political Solidarity Measure, listed in Table 5. I kept three items per factor or subscale because I wanted the scale to be relatively brief while still being statistically reliable. I chose three items per factor for several reasons. One- or two-item subscales would certainly be briefer, but measures of this length typically have poor or unknown reliability and are thus discouraged in most cases (Eisinga et al., 2013; Furr, 2011). Most theorists advise retaining a minimum of three to five items per factor in order to identify the factor (Fabrigrar et al., 1999; Singh, Junnarkar, & Kaur, 2016). Thus, retaining three items per factor balanced brevity with reliability and factor identification. The internal consistency was indeed excellent for each subscale (see Table 6) as well as the overall scale (Cronbach's $\alpha$ = .92). Within each factor, I chosen items based on several considerations: A diversity of (a)

Table 4

*Study 1: Factor Loadings for Exploratory Factory Analysis with Oblimin Rotation*

| | Three Factor Solution | | | Four Factor Solution | | | | Five Factor Solution | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | F1 | F2 | F3 | F1 | F2 | F3 | F4 | F1 | F2 | F3 | F4 | F5 |
| I feel a sense of "brotherhood" or "sisterhood" with X | **.74** | .18 | -.17 | **.68** | .21 | -.06 | -.21 | **.72** | .14 | -.02 | -.20 | -.04 |
| X can count on me to be their ally | **.71** | -.01 | .16 | **.77** | -.02 | .06 | .17 | **.71** | .03 | .10 | .18 | -.02 |
| X and I are "all in this together" | **.76** | .05 | .04 | **.75** | .06 | .05 | -.03 | **.74** | .05 | .09 | -.02 | -.03 |
| I stand in solidarity with X | **.79** | -.05 | .14 | **.80** | -.04 | .11 | .05 | **.82** | -.07 | .01 | .05 | .13 |
| I feel a sense of solidarity with X | **.81** | .03 | .01 | **.78** | .05 | .05 | -.08 | **.81** | -.01 | .00 | -.07 | .06 |
| It's important for me to stick together with X | **.77** | .06 | .05 | **.77** | .07 | .05 | .00 | **.78** | .05 | .00 | .00 | .07 |
| I stand united with X | **.83** | -.07 | .13 | **.87** | -.07 | .05 | .11 | **.85** | -.06 | .03 | .12 | .05 |
| In some ways, I have a sense of responsibility towards X | **.53** | **.35** | -.13 | **.47** | .37 | -.03 | -.20 | **.53** | .29 | -.08 | -.21 | .05 |
| I would say I am loyal to X | **.83** | -.02 | .01 | **.83** | -.01 | -.01 | .02 | **.80** | .01 | .09 | .04 | -.10 |
| I feel committed to X | **.78** | .15 | -.08 | **.75** | .17 | -.03 | -.09 | **.76** | .13 | -.01 | -.09 | -.02 |
| In some ways, I view X's cause as my cause too | .01 | **.82** | -.03 | -.03 | **.83** | .03 | -.11 | -.04 | **.84** | .07 | -.13 | -.05 |
| X's cause is important to me | .04 | **.64** | .26 | .11 | **.64** | .09 | .29 | .04 | **.72** | .03 | .26 | .10 |
| I identify with X's cause | .01 | **.77** | -.01 | .01 | **.77** | .02 | -.04 | .00 | **.77** | .00 | -.07 | .01 |
| I think X's cause is worthy | .00 | **.33** | **.55** | .09 | **.31** | .35 | **.38** | .02 | **.41** | .19 | **.35** | .21 |
| I share X's goal | .11 | **.68** | .09 | .14 | **.67** | .03 | .12 | .07 | **.74** | .09 | .10 | -.06 |
| I feel partly responsible to ensure that X's interests are met | .06 | **.76** | .00 | .03 | **.77** | .05 | -.08 | .05 | **.74** | -.03 | -.12 | .08 |
| Working together to achieve X's goal is important to me | .11 | **.67** | .17 | .16 | **.66** | .08 | .17 | .11 | **.72** | .04 | .14 | .06 |
| I have a role to play in X's cause | .01 | **.78** | .05 | .00 | **.78** | .08 | -.04 | -.01 | **.79** | .05 | -.07 | .03 |
| I am committed to supporting X's cause | .17 | **.56** | .18 | .23 | **.56** | .07 | .19 | .18 | **.61** | .02 | .17 | .08 |
| I feel connected to X's cause | .10 | **.78** | -.01 | .09 | **.78** | .01 | -.03 | .08 | **.78** | -.02 | -.06 | .03 |
| Policies negatively affecting X should be changed | .10 | -.07 | **.83** | .08 | -.07 | **.86** | -.03 | .04 | -.01 | **.83** | -.01 | .02 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All citizens should be better informed on how X are disadvantaged by policies | -.06 | .17 | **.78** | -.06 | .15 | **.77** | .05 | .06 | .05 | .12 | -.02 | **.72** |
| More people should know about how X are negatively affected by this issue | -.12 | .15 | **.83** | -.11 | .14 | **.80** | .07 | .03 | .02 | .04 | .00 | **.86** |
| It's important to challenge the power structures that disadvantage X | .04 | .08 | **.78** | .01 | .08 | **.80** | -.01 | .02 | .11 | **.63** | -.01 | .16 |
| Power structures that disadvantage X are unfair | .02 | .01 | **.84** | .00 | .00 | **.86** | -.01 | -.01 | .06 | **.74** | .00 | .11 |
| Policies and laws that are unfair to X must be changed | .11 | -.11 | **.84** | .07 | -.11 | **.90** | -.06 | .02 | -.03 | **.95** | -.03 | -.08 |
| The way that the authorities treat X is unjust | -.06 | .09 | **.66** | -.09 | .08 | **.70** | -.04 | -.02 | .04 | **.35** | -.06 | **.36** |
| We need policies that will grant equal rights to X | .10 | -.08 | **.85** | .08 | -.08 | **.87** | .00 | .03 | .00 | **.85** | .03 | .00 |
| I believe social systems should change so they guarantee equality for X | .06 | .01 | **.80** | .03 | .01 | **.83** | -.02 | .01 | .06 | **.74** | .00 | .08 |
| Fighting for social justice for X means fighting for the common good | .05 | .11 | **.75** | .06 | .09 | **.71** | .09 | .09 | .10 | **.41** | .07 | **.33** |

*Note.* Factor loadings > .30 are in boldface. F = Factor.

Table 5

*Study 1: Final Items Retained for the Political Solidarity Measure*

| Factor/Subscale | Items |
|---|---|
| Allyship | I feel a sense of "brotherhood" or "sisterhood" with X |
| | I feel a sense of solidarity with X[a] |
| | I stand united with X |
| Cause Connection | In some ways, I view X's cause as my cause, too |
| | I have a role to play in X's cause |
| | I feel connected to X's cause |
| Social Change Commitment | Policies negatively affecting X should be changed |
| | More people should know about how X are negatively affected by this issue |
| | It's important to challenge the power structures that disadvantage X |

*Note.* [a]Item is from Leach et al. (2008).

phrasings and meanings, as well as correlations, to avoid "an overly narrow scale" (Clark & Watson, 1995, p. 318) and thus increase construct validity, (b) mean scores (to decrease ceiling effects), and (c) factor loadings (to minimize factor intercorrelations). I also avoided cross-loading items (Fabrigrar & Wegener, 2012) and items with a factor loading under .35 (Clark & Watson, 1995). In addition to the subscales' internal consistencies, Table 6 also displays their intercorrelations; Table 7 contains the means for the subscales within each social issue.

Table 6

*Study 1: Subscale Correlations and Internal Consistencies*

| | 1 | 2 | 3 |
|---|---|---|---|
| 1: Allyship | .86 | .79 | .64 |
| 2: Cause Connection | | .88 | .61 |
| 3: Social Change Commitment | | | .88 |

*Note*. Numbers above the diagonal represent correlations. Numbers on the diagonal represent Cronbach's alpha. For all correlations, $p < .001$.

Table 7

*Study 1: Means and Reliability for Subscales and Composites Across Issues*

| Issue | *M*(*SD*) | | | | Cronbach's α | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | Tot. | 1 | 3 | 3 | Tot. |
| Gendered Income Equality | 5.18 (1.22) | 4.53 (1.32) | 5.57 (1.20) | 5.09 (1.09) | .86 | .87 | .89 | .92 |
| Black Lives Matter | 5.07 (1.07) | 4.71 (1.09) | 5.93 (0.93) | 5.24 (0.85) | .79 | .82 | .83 | .87 |
| Transgender Rights | 4.51 (1.49) | 4.01 (1.48) | 5.43 (1.50) | 4.65 (1.36) | .89 | .90 | .93 | .95 |
| MMIWG Inquiry | 4.30 (1.31) | 4.23 (1.32) | 5.50 (1.11) | 4.68 (1.07) | .87 | .88 | .87 | .91 |
| Reconciliation | 4.17 (1.20) | 4.03 (1.27) | 5.44 (1.15) | 4.55 (1.02) | .83 | .87 | .89 | .90 |
| Syrian Refugees | 4.46 (1.23) | 4.03 (1.23) | 5.33 (1.04) | 4.61 (1.00) | .84 | .86 | .83 | .90 |

*Note.* For both the means and Cronbach's alpha, the columns numbered 1-3 refer to the subscales of allyship, cause connection, and social change commitment, respectively.

**Supplementary analyses.** The above analyses suggest that three factors underlie the data, yet several questions remain about this proposed factor structure. The first is whether those three factors (i.e., lower-order factors) represent a single, general factor (i.e., higher-order factor) of political solidarity. Though scale developers rarely formally address this question (Zinbarg,

Yovel, Revelle, & McDonald, 2006), it is an important one to answer empirically. It is possible, for instance, that two of the factors represent one higher-order factor, and that the third factor represents a different higher-order factor; if so, then the PSM is not a measure of political solidarity, but of political solidarity and some other concept. The second remaining question is whether any higher-order factors better explain the data than do any lower-order factors. The third question is whether the hypothesized factor structure holds across different subgroups, such as the six different social issues and groups. Below I address the first two questions with hierarchical latent variable modelling and the third question with a series of configural equivalence tests. I conducted these analyses using Rosseel's (2012) lavaan package (version 0.5-23.1097) for R software.

***Hierarchical latent variable modeling.*** I conducted a hierarchical exploratory factor analysis using the same specifications as in the exploratory factor analyses above, aside from the following exceptions: 1) I requested $\omega_h$, a ratio of variance explained across all items by the higher-order factor, where higher values indicate a greater proportion of variance explained (Zinbarg et al., 2006); and 2) I used the final nine items and specified a three factor model. Results indicate that the three factors represent one higher order or general factor. The higher order factor explains the majority of the variance, $\omega_h = .81$. Further, this higher-order factor model fits the data very well, $\chi^2 (12) = 15.14$, $p = .23$, RMSEA = 0.01, 90% CI [0.00, 0.03].

***Configural equivalence tests.*** If two or more groups have the same number of latent variables and the same pattern loadings, they can be said to have configural equivalence. Put differently, configural equivalence across groups signifies that, at a basic level, the groups have

the same factor structure.[2] Thus, demonstrating the PSM's configural equivalence across various categories would suggest some potential for generalizability. Towards that goal, I conducted three configural equivalence tests to assess whether the proposed three-factor model held across each of the three following grouping variables: the six causes that participants thought about while completing the PSM, as it is conceivable that people may differentially evince solidarity across causes; participant gender, because women and men sometimes respond differently to social issues (e.g., Hodson et al., 2013; Sidanius & Pratto, 1999); and participant ethnic status (i.e., White/majority or ethnic minority), as these groups sometimes also respond differently to an outgroups' cause (e.g., Starzyk et al., 2018). Because differences in the latter two categories are typically investigated in terms of mean differences, it seemed worthwhile to instead test for structural differences here.

Following recommendations from Hirschfield and von Brachel (2014), configural equivalence exists when two criteria are met. One is that, within a test, the same factor loadings are statistically significant across all subgroups. In all three tests, all factor loadings in all groups were statistically significant (all $p$s < .001; see Appendix E). The other criteria of configural equivalence is that the factor model fits the data well. I used two of the most common indices of model fit, RMSEA and CFI (Jackson et al., 2009). Despite their popularity, there is little consensus on what values of these indices constitute appropriate model fit. Recommendations for cut-offs vary, and many experts suggest viewing these as flexible rules of thumb, *not* as rigid rules (Hu & Bentler, 1999; Jackson et al., 2009). Regardless, researchers commonly interpret a CFI value near or above .95 as indicating good fit (Hu & Bentler, 1999; Schermelleh-Engel,

[2] Some authors require more stringent parameters to justify claims of structural equivalence (Hirschfield & von Brachel, 2014).

Moosbrugger, & Muller, 2003). In the case of RMSEA, researchers often view values near or below .05 or .06 as signifying good fit, and values between .05 or .06 and .08 as signifying fair fit (e.g., Browne & Cudeck, 1993). By these benchmarks, the models fit the data well across all three tests: for the causes test, CFI = 0.98, RMSEA = 0.074, 90% CI [0.065, 0.084]; for the gender test, CFI = 0.98, RMSEA = 0.063, 90% CI [0.054, 0.072]; for the ethnicity test, CFI = 0.98, RMSEA = 0.064, 90% CI [0.054, 0.073]. Thus, all three tests met the criteria for configural equivalence.

**Discussion**

The goals of this study were to determine the underlying factor structure of political solidarity and select a final set of items to measure this construct. A large undergraduate student sample completed the initial pool of 30 items. I hypothesized that political solidarity might consist of three factors: Allyship with the disadvantaged outgroup ("Allyship"), a connection to their cause ("Cause Connection"), and a commitment to work alongside them for social change ("Social Change Commitment"). Results of an exploratory factor analysis and factor retention indices, weighed with interpretability, suggested a three-factor solution did appropriately represent political solidarity. Configural equivalence tests indicated that this factor structure holds across the six assessed social issues, across women and men's responses, and across ethnic majority and minority groups. Further, a higher-order exploratory factor analysis indicated the three factors do indeed represent a single, higher-order factor: political solidarity. Thus, I retained nine items, three per factor, to form the brief Political Solidarity Measure (PSM).

## Study 2: Confirmatory Factor Analysis of the PSM

Both the above literature and Study 1 results suggest that three factors, Allyship, Cause Connection, and Social Change Commitment, represent political solidarity. The goal of Study 2

was to verify this factor structure. I therefore expected that these three factors would adequately represent the data.

## Method

**Participants.** In April 2017, research assistants recruited for the study by setting up tables in public spaces at the University of Manitoba. At each table, they affixed signs inviting people to participate in a 5-minute psychology study about social issues in exchange for a chocolate bar, energy bar, or pen. Three hundred and seventy-seven people participated. I excluded from the analyses 88 participants who had taken Introduction to Psychology at the University of Manitoba that year, because most students completed Study 1; it is inappropriate to sample the same people in an exploratory factor analysis as in the confirmatory factor analysis (Flora & Flake, 2017). I also decided a priori to exclude any non-student participants ($n$ = 15) from the analyses, given that I anticipate researchers using the PSM will primarily sample university students and that scale validation samples should approximate target samples as much as possible. I also excluded one person who completed an ingroup version of the PSM, and another who did not complete all PSM items, as the planned statistical analyses necessitated complete data. Thus, the final sample consisted of 273 university students ($M_{age}$ = 21.86 years, $SD$ = 5.36). Based on a series of simulations conducted by Wolf and colleagues (2013), this sample size is likely to yield minimal bias (i.e., < .05% bias in parameter estimates and their standard errors), 80% statistical power, and solution propriety (see also Muthén & Muthén, 2002). Most participants identified as women and as White; see Table 8 for further demographic details.

**Materials and procedure.** People interested in completing the study approached the research assistant. Following a script (Appendix F), the research assistant asked them to read an

Table 8

*Study 2: Demographic Information*

| | *n* | % |
|---|---|---|
| Gender Identity | | |
| Male | 89 | 32.6 |
| Female | 180 | 65.9 |
| Other | 4 | 1.5 |
| Ethnicity | | |
| Arab (e.g., Egyptian, Kuwaiti, Libyan) | 5 | 1.8 |
| Black (e.g., African, Nigerian, Somali) | 43 | 15.8 |
| Chinese | 19 | 7.0 |
| Filipino | 16 | 5.9 |
| Indigenous (e.g., First Nations, Métis, Non-Status) | 10 | 3.7 |
| Korean | 2 | 0.7 |
| Latin American (e.g., Chilean, Costa Rican, Mexican) | 5 | 1.8 |
| South Asian (e.g., Bangladeshi, Punjabi, Sri Lankan) | 22 | 8.1 |
| Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian) | 10 | 3.7 |
| West Asian (e.g., Afghan, Assyrian, Iranian) | 1 | 0.4 |
| White/European | 144 | 52.7 |
| Visible Minority (e.g., Pacific Islander, Guyanese) | 4 | 1.5 |
| Multiple Visible Minorities | 1 | 0.4 |
| Other (Please Specify) | 21 | 7.7 |
| Highest Level of Education | | |
| High School Graduate | 69 | 25.3 |
| Some University or College | 145 | 53.1 |
| Community College (2-Year) Degree | 6 | 2.2 |
| University (4-Year) Degree | 46 | 16.8 |
| Postgraduate or Professional Degree | 7 | 2.6 |

*Note.* Participants could select multiple ethnic groups; the total percentage is therefore greater than 100.

information and consent form (Appendix G). If participants did not consent to participate in the study, the research assistant thanked them for their interest. Consenting participants signed the form and began the Qualtrics-based study on a laptop computer or tablet (most did so on provided laptops). After providing informed consent, participants reported their demographic

information. Based on this information, Qualtrics randomly assigned participants to complete an outgroup version of the PSM; as in Study 1, six possibilities existed (see Appendix C).[3] Across all versions, the political solidarity items appeared in two sets. On the first page were the nine items chosen to form the PSM in Study 1 (Table 5); the remaining 21 items appeared on the subsequent page. Finally, participants read a debriefing form and chose their remuneration. This research was approved by the University of Manitoba's Human Ethics Research Board and Office of Institutional Analysis.

## Results

**Preliminary analyses.** The descriptive statistics, correlation matrix, and covariance matrix for the nine PSM items are respectively presented in Table 9, Table 10, and Appendix H. The data were somewhat non-normal but adequately correlated for a factor analysis ($r$'s = .41-.73). Gender and PSM scores were uncorrelated, $r(1590) = .04$, $p = .09$.

**Confirmatory factor analysis.** To test whether the factor structure established in Study 1 generalized, I conducted a confirmatory factor analysis using Rosseel's (2012) lavaan package (version 0.5-23.1097) for R software. For the factor estimation method, I chose a robust maximum likelihood variant (MLR; see Rosseel, 2017) because recent simulation studies suggest it is the most appropriate choice for non-normal data at my sample size (Li, 2016). Table 11 contains the unstandardized and standardized factor loadings. As expected, all PSM items had significant and positive loadings onto their specified factors. The factors had large intercorrelations: $r_{\text{Allyship, Social Change Commitment}} = .81$, $p < .001$; $r_{\text{Allyship, Cause Connection}} = .87$, $p < .001$;

[3] I made one minor change to the PSM item and issue description wording in Study 2. Study 1 referred to "transgender**ed** people"; "transgender people" is the preferred term (GLAAD, n.d.) and is thus used in subsequent studies.

Table 9

*Study 2: Descriptive Statistics for PSM Items*

| Factors and Items | *M* | *SD* | Skew (*SE*) | Kurtosis (*SE*) |
|---|---|---|---|---|
| Allyship | | | | |
| I feel a sense of "brotherhood" or "sisterhood" with X | 4.53 | 1.57 | -0.10 (.15) | -0.72 (.30) |
| I feel a sense of solidarity with X | 5.04 | 1.47 | -0.40 (.15) | -0.58 (.30) |
| I stand united with X | 5.64 | 1.29 | -0.87 (.15) | 0.31 (.30) |
| Cause Connection | | | | |
| In some ways, I view X's cause as my cause too | 4.62 | 1.70 | -0.34 (.15) | -0.74 (.30) |
| I have a role to play in X's cause | 4.85 | 1.60 | -0.56 (.15) | -0.29 (.30) |
| I feel connected to X's cause | 4.64 | 1.50 | -0.25 (.15) | -0.42 (.30) |
| Social Change Commitment | | | | |
| Policies negatively affecting X should be changed | 6.06 | 1.25 | -1.65 (.15) | 2.92 (.30) |
| More people should know about how X are negatively affected by this issue | 6.05 | 1.24 | -1.58 (.15) | 2.61 (.30) |
| It's important to challenge the power structures that disadvantage X | 5.95 | 1.33 | -1.43 (.15) | 1.80 (.30) |

*Note.* All items used a 1-7 scale.

Table 10

*Study 2: Correlation Matrix of PSM Items*

| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| 1: I feel a sense of brotherhood or sisterhood with X | .66 | .58 | .64 | .48 | .66 | .42 | .41 | .48 |
| 2: I feel a sense of solidarity with X | | .67 | .56 | .51 | .62 | .52 | .47 | .60 |
| 3: I stand united with X | | | .56 | .53 | .64 | .61 | .57 | .68 |
| 4: In some ways, I view Xs cause as my cause too | | | | .66 | .70 | .47 | .45 | .49 |
| 5: I have a role to play in Xs cause | | | | | .71 | .44 | .42 | .52 |
| 6: I feel connected to Xs cause | | | | | | .51 | .49 | .56 |
| 7: Policies negatively affecting X should be changed | | | | | | | .68 | .73 |
| 8: More people should know about how X are negatively affected by this issue | | | | | | | | .73 |
| 9: It's important to challenge the power structures that disadvantage X | | | | | | | | |

*Note.* For all correlations, $p < .001$.

Table 11

*Study 2: PSM Factor Loadings*

| Factors and Items | *b* (SE) | ß |
|---|---|---|
| Allyship | | |
| I feel a sense of "brotherhood" or "sisterhood" with X | 1.19 (0.08) | .75 |
| I feel a sense of solidarity with X | 1.20 (0.07) | .81 |
| I stand united with X | 1.08 (0.07) | .83 |
| Cause Connection | | |
| Policies negatively affecting X should be changed | 1.37 (0.07) | .81 |
| I have a role to play in X's cause | 1.24 (0.09) | .79 |
| I feel connected to X's cause | 1.36 (0.07) | .89 |
| Social Change Commitment | | |
| Policies negatively affecting X should be changed | 1.01 (0.08) | .82 |
| More people should know about how X are negatively affected by this issue | 0.98 (0.09) | .81 |
| It's important to challenge the power structures that disadvantage X | 1.21 (0.08) | .90 |

*Note.* For each factor loading, $p < .001$

$r_{\text{Social Change, Cause Connection}} = .69$, $p < .001$. Each factor also had excellent internal consistency: for Allyship, Cause Connection, and Social Change Commitment, respectively, Cronbach's $\alpha = .84$, .87, and .88. For the full scale, Cronbach's $\alpha = .92$.

***Model fit.*** How well did the specified three-factor model fit the data? Though hundreds of model fit statistics exist, common practice is to report a few statistics of differing measurement properties in the context of confirmatory factor analysis (Hu & Bentler, 1999; Jackson et al., 2009). One class of fit indices are calculated by comparing the current model to a very bad model (i.e., the null model); the Comparative Fit Index (CFI; Bentler, 1990) is the most commonly reported of these and is relatively unaffected by sample size. Another class of fit indices, absolute fit indices, assesses how well the specified model fits the sample data (McDonald & Ho, 2002). The most common fit index of this class is model $\chi^2$—but as previously mentioned, $\chi^2$ has substantial limitations, one being that $\chi^2$ nearly always suggests model inadequacy when $N > 200$ (Jackson et al., 2009; Kenney, 2015), as is the case in this study. For this reason, I also examined another common discrepancy function: the RMSEA.

Because the data departed from normality, I report robust forms of these three fit statistics (Brosseau-Liard & Savalei, 2014; Brosseau-Liard, Savalei, & Li, 2012). As in Study 1, the fit benchmark values I specified were that for CFI, values of near or above .95 would indicate good fit, (Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger, & Muller, 2003), and that for RMSEA, values near or below .05 or .06 would signify good fit, and values between .05 or .06 and .08 would signify fair fit (e.g., Browne & Cudeck, 1993). Interpretation of $\chi^2$ is theoretically more clear-cut (as a nonsignificant *p* value signifies good fit and a significant one signifies bad fit), yet given the current sample size, a nonsignificant *p* value was highly unlikely (Hu & Bentler, 1999); I report it regardless to maintain convention. As per these benchmarks and Table 12, the three-factor model's robust CFI indicated good model fit whereas the robust RMSEA indicated fair model fit.

***Comparison to alternative models.*** Given that the three-factor model had high factor correlations and an arguably questionable robust RMSEA point estimate, one might wonder whether a one- or two-factor model might better fit the data. To test these possibilities, I also calculated model fit indices for a one-factor model (represented by all nine items) and a two-factor model. Given that the Allyship and Cause Connection factors correlated most highly, I combined these to form one factor of the two-factor model; Social Change was the second factor. In addition to the model fit indices described above, I also calculated AIC and changes in AIC relative to the lowest AIC point estimate ($\Delta_i$; Burnham & Anderson, 2002). As per Table 12, across all meaningful indices (i.e., aside from $\chi^2$) the hypothesized three-factor model fit the data better than did the one- or two-factor model.

Table 12

*Study 2: Indices of Model Fit for Models with 1-3 Factors*

| Factors | Goodness of Fit | | | Robust RMSEA | | Robust CFI | AIC | |
|---|---|---|---|---|---|---|---|---|
| | $\chi^2$ | *df* | *p* | Point Estimate | 90% CI | | Point Estimate | $\Delta_i$ |
| 1 | 180.53 | 27 | <.001 | 0.18 | [0.16, 0.21] | 0.85 | 7391.49 | -203.22 |
| 2 | 88.23 | 26 | <.001 | 0.11 | [0.09, 0.14] | 0.95 | 7233.32 | -45.05 |
| 3 | 53.67 | 24 | <.001 | 0.08 | [0.05, 0.11] | 0.97 | 7188.27 | 0.00 |

**Discussion**

In Study 2 I sought to verify the PSM's factor structure as determined in Study 1. I specified a model with the three latent factors—Allyship, Cause Connection, and Social Change Commitment—each estimated by three items. This study has two potential limitations. First is the large interfactor correlations; I discuss this matter further in the general discussion. Second is the RMSEA. The RMSEA point estimate (which indicates fair fit), along with its confidence interval (whose bounds span the conventions of good fit to poor fit), might cause concern about the three-factor model's appropriateness. Yet this statistic does not seem reason enough to disregard the three-factor model. For one, many experts warn against stringently adhering to fit benchmarks, both for the point estimate and its confidence interval, as they are largely considered arbitrary (Chen, Curran, Bollen, Kirby, & Paxton, 2008; Hu & Bentler, 1999; Jackson et al., 2009). In fact, a large simulation study found little empirical support for using *any* universal RMSEA cutoffs (Chen et al., 2008), and some experts advocate abandoning fit indices altogether (Jackson et al., 2009). Further, seeing as the CFI suggested good fit, the three-factor model fit the data far better than do the one- or two-factor models, and the three-factor model is theoretically justifiable, it is reasonable to conclude that the three-factor model is the best of the three and is justifiable. Thus, on the whole, the model proposed in Study 1 adequately fit the data in Study 2.

## Study 3: Test-Retest Stability, Convergent Validity, and Discriminant Validity of the PSM

The goals of Study 3 were to assess the PSM's medium-term test-retest stability and aspects of its construct validity. Towards the first goal, I assessed participants' PSM scores at two time points separated by 3-6 months. Normally, test-retest reliability is assessed over a period of a few weeks, not months, minimizing history and maturation effects; thus, one typically expects a large correlation between short-term retest scores. Given that there are no suggested benchmarks for acceptable retest stability in the 3-6-month range, and that history and maturation effects might occur, I did not have a hypothesized retest correlation for this study; in other words, this test was exploratory. Towards the second goal, I used the *sets of correlations* approach to evaluating construct validity (Furr & Bacharach, 2014). In this method, the researcher assesses numerous criterion variables expected to be somewhat associated with the main construct (evidencing convergent validity) or not associated with the main construct (evidencing divergent validity). Then, the researcher computes the correlations between each criterion variable and the main construct to test the predicted relationships. I describe hypothesized relationships between the PSM and several criterion variables below.

A scale is said to have convergent validity when its scores correlate with theoretically-relevant constructs (Furr, 2011). I expected that several measures would relate to, but not be conceptually redundant with, the PSM (i.e., correlations below .85; Kline, 2005). As political solidarity is highly relational and involves a member of one group wanting to help another group, I predicted that the PSM would correlate positively with intergroup interdependence. Prior research suggests that people who feel solidarity with an outgroup tend to feel positive emotions toward that group, including liking and compassion (Craig & Richeson, 2014; Dragojevic & Giles, 2014; Leach et al., 2008; Starzyk, Cook, & Neufeld, 2015); thus, I expected that the PSM

would positively relate to outgroup warmth and compassion for strangers, and negatively relate to modern racism. Given that solidarity with a minority outgroup requires acknowledging injustice—injustice often perpetrated or perpetuated by the authorities—and (implicitly or explicitly) the desire to deconstruct social hierarchies, I predicted a negative association between the PSM and belief in a just world (Hafer & Bégue, 2005; Lerner, 1980), social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994), and system justification (Jost & Banaji, 1994). Finally, because I planned to assess participants' political solidarity with relatively liberal social causes, I expected a negative association between conservative political orientation and PSM scores. To summarize, I expected that the PSM would positively correlate with intergroup interdependence, outgroup warmth, compassion for strangers, and liberal political orientation; I expected negative associations between the PSM and modern racism, belief in a just world, system justification, and social dominance orientation.

As Clark and Watson (1995) said, "a good theory articulates not only what a construct is, but also what it is not" (p. 913). When constructing a measure, then, it is important to not only establish that it is indeed related to relevant constructs, but also to show that it is unrelated to theoretically-irrelevant constructs (i.e., discriminant validity). Towards this goal, I assessed the PSM's relationship to two other measures. The first was Paulhus's (1998) measure of impression management responding, which measures tendencies to present oneself in a socially-desirable way. Impression management is frequently used to assess discriminant validity in scale development (e.g., Buckels et al., 2015; Starzyk et al., 2006), perhaps to rule out the possibility that the scale is prone to pull for artificially positive responses. The second, the personal acquaintance measure (Starzyk, Holden, Fabrigar, & MacDonald, 2006), measures how well a person knows another person. In general, there is no theoretical reason to believe that

participants' degree of acquaintance with some person should predict their political solidarity with a specified outgroup.[4] For both measures of discriminant validity, I expected small or no associations (i.e., $r < |.20|$) with the PSM.

Finally, I also wanted to explore the relationship between PSM scores and zero-sum perceptions (von Neumann & Morgenstern, 1944), or the belief that as one group gains resources another group correspondingly loses resources; I did not have a specific hypothesized relationship. Perhaps people who are high in political solidarity acknowledge and accept that they may lose social and economic privileges as another group gains these privileges (i.e., PSM and zero-sum perceptions are positively correlated). Yet it also seemed possible that people who are high in political solidarity do not hold a zero-sum mentality, in which case the PSM and zero-sum perceptions would negatively correlate; after all, people with zero-sum perceptions are more inclined to report intergroup prejudice (Bobo & Hutchings, 1996), such as resistance to immigration (Esses, Hodson, & Dovidio, 2005). A final possibility was that perhaps no relationship existed.

## Method

**Participants and procedure.** This study had two time points. The participants, procedure, and data described in Study 1 comprise Time 1. Of those, 285 participants completed Time 2, which occurred three to six months later in the 2017 University of Manitoba winter semester ($M = 4.44$, $SD = 0.45$). I excluded from the analyses participants who completed different versions of the PSM at Times 1 and 2 ($n = 1$), did not complete the PSM about an

[4] Of course, if participants were forced to name a person belonging to the same outgroup they thought about while completing the PSM, the personal acquaintance measure (then effectively a measure of intergroup friendship) would likely correlate with the PSM.

outgroup issue ($n$ = 4), or completed the survey in fewer than 5 minutes or more than 60 minutes ($n$ = 26). I did not recruit participants who had completed the PSM for the issue of Syrian refugees because confounding history effects seemed likely; this issue had received a substantial amount of coverage in news and politics since Time 1. The final sample thus consisted of 259 participants ($M_{age}$ = 19.83 years, $SD$ = 3.97); most identified as men and nearly half identified as White. Further demographic information is in Table 13. The University of Manitoba's Human Ethics Research Board approved this research.

Research assistants sent email invitations to potential Time 2 participants, who completed an online survey and received 0.5 Introduction to Psychology research participation credits. After providing informed consent (Appendix I), they completed the same version of the PSM as they did at Time 1 (see Appendix C). Next, participants completed measures to assess convergent and discriminant validity. Not all participants completed all measures. Upon beginning Time 2 data collection, my goal was to assess the PSM's test-retest stability; midway through data collection, though, I added measures to assess convergent and discriminant validity. Thus, all participants have PSM data at Times 1 and 2, and have Time 1 data for political orientation, modern racism, and social desirability; however, only 139 participants completed the additional measures. The sample sizes were sufficient to yield 80% power to detect a correlation midway between a small and medium size (two-tailed; Faul, Erdfelder, Buchner, & Lang, 2009).

**Measures.** Except where otherwise noted, I averaged responses of multi-item measures to obtain a composite score for that measure, where higher scores indicate a higher level of that construct, and measures had a 7-point scale with possible responses of 1 = *strongly disagree*; 2 = *disagree*, 3 = s*omewhat disagree*, 4 = *neither disagree nor agree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*.

Table 13

*Study 3: Participant Demographics*

| | *n* | % |
|---|---|---|
| Gender Identity | | |
| Female | 108 | 41.7 |
| Male | 151 | 58.3 |
| Ethnicity | | |
| Arab (E.g., Egyptian, Kuwaiti, Libyan) | 8 | 3.1 |
| Black (E.g., African, Nigerian, Somali) | 11 | 4.2 |
| Chinese | 12 | 4.6 |
| Filipino | 50 | 19.3 |
| Indigenous (First Nations, Métis, Inuit, Non-Status Aboriginal) | 10 | 3.9 |
| Japanese | 1 | 0.4 |
| Korean | 9 | 3.5 |
| Latin American (E.g., Chilean, Costa Rican, Mexican) | 2 | 0.8 |
| South Asian (E.g., Bangladeshi, Punjabi, Sri Lankan) | 12 | 4.6 |
| Southeast Asian (E.g., Vietnamese, Cambodian, Malaysian, Laotian) | 7 | 2.7 |
| West Asian (E.g., Afghan, Assyrian, Iranian) | 3 | 1.2 |
| White | 121 | 46.7 |
| Multiple Visible Minorities | 2 | 0.8 |
| Other | 10 | 3.9 |
| Missing | 1 | 0.4 |
| Education | | |
| Completed High School (Grades 12, 13 or OAC) | 137 | 52.9 |
| Community College/ Vocational/ Trade School/ Commercial/ CEGEP | 10 | 3.9 |
| Some University | 104 | 40.2 |
| Completed University | 6 | 2.3 |
| Missing | 2 | 0.8 |
| Annual Household Income | | |
| Under $30,000 | 37 | 14.3 |
| $30,000-$60,000 | 48 | 18.5 |
| $60,000-$80,000 | 52 | 20.1 |
| $80,000-$100,000 | 46 | 17.8 |
| $100,000 and Over | 56 | 21.6 |
| Missing | 20 | 7.7 |
| Country of Birth | | |
| Canada | 158 | 61.0 |
| Another Country | 99 | 38.2 |
| Missing | 2 | 0.8 |

***Time 1 measures.***

*PSM.* Participants completed the nine political solidarity items as per Study 1.

*Impression management.* Participants completed the 20-item impression management subscale (Paulhus, 1998), which assesses tendencies to provide socially desirable answers. For example, one item reads, "I never cover up my mistakes." Response options range from 1 = *not true,* 2, 3, 4 = *somewhat true*, 5, 6, and 7 = *very true*. I scored responses from 1-5 as 0 and responses of 6 or 7 as 1, and then totaled the responses to form impression management scores. Possible scores therefore range from 0-20.

*Political orientation.* To assess participants' political orientation, they indicated their stance on three types of issues (e.g., "social issues"; adapted from Pratto et al., 1994). The response options were, 1 = *very left-wing*, 2 = *left-wing*, 3 = *slightly left-wing*, 4 = *middle of the road*, 5 = *slightly right-wing*, 6 = *right-wing*, and 7 = *very right-wing*. Higher scores thus indicated more conservative responses.

*Modern racism.* Participants responded to 10 items designed to assess their levels of modern racism, including, "There are too many foreign students being allowed to attend university in Canada." This measure was adapted from prior research (Haddock, Zanna, & Esses, 1993; McConahay, 1986).

***Time 2 measures.*** All participants completed the PSM and the impression management measure; 139 participants additionally completed the remaining measures.

*PSM.* Participants completed the same version that they completed at Time 1.

*Social justice.* Participants completed several items developed by Torres-Harding, Siers, and Olson (2012), including 11 items assessing attitudes towards social justice (e.g., "I believe it is important to allow others to have meaningful input into decisions affecting their lives"), 4

items assessing behavioral intentions (e.g., "In the future, I intend to engage in activities that will promote social justice"), and 5 items assessing perceived behavioral control (e.g., "I am certain that if I try, I can have a positive impact on my community"). Consistent with scale instructions, I created separate composite scores for each factor.

*Compassion for strangers.* I used a 5-item, validated, abbreviated version of Sprecher and Fehr's (2005) compassion for strangers scale (Hwang, Plante, & Lackey, 2008). A sample item reads, "When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her." Possible responses ranged from 1 (*not at all true of me*) to 7 (*very true of me*).

*Outgroup warmth.* Using a feeling thermometer scale anchored at 0 = *most negative* and 100 = *most positive*, participants indicated how warmly they felt towards the minority outgroup they thought about while answering the PSM. This item is adapted from prior research (Haddock et al., 1993).

*Intergroup interdependence.* This construct was measured with a single item: "Different groups are needed for society to work" (van der Toorn, Napier, & Dovidio, 2014).

*Belief in a just world.* I assessed the extent to which participants endorse just world beliefs—that is, that people generally get what they deserve—with a 20-item scale by Rubin and Peplau (1975). For instance, one item reads, "Basically, the world is a just place."

*Social dominance orientation.* Social dominance orientation is the extent to which people prefer hierarchical social arrangements (i.e., anti-egalitarianism) and dominance over lower status groups. Participants answered 14 items assessing this construct (Pratto et al., 1994), such as "Some groups of people are simply inferior to other groups."

*System justification.* To assess the tendency to justify important social systems, such as the government, participants completed the Canadian version of Kay and Jost's (2003) 8-item system justification scale. One of the items is, "In general, the Canadian political system operates as it should."

*Zero-sum competition.* I measured the extent to which participants perceive competition for social resources as a zero-sum process using four items from past research (Bobo & Hutchings, 1996), including, "More good jobs for [outgroup] means fewer good jobs for members of other groups." The survey software autopopulated "[outgroup]" with the name of the group that the participant considered when completing the PSM.

*Impression management.* Participants completed the same measure as at Time 1.

*Personal acquaintance measure.* As per Starzyk and colleagues' (2006) instructions, participants named a person that they personally know. Next, they answered 18 questions that tapped their degree of acquaintance, such as "I know what X's goals are"; the survey auto-populated the acquaintance's name in each "X". This measure has five possible responses: 1 = *definitely false or strongly disagree*, 2 = *mostly false or disagree*, 3 = *about equally true or false, cannot decide, or neutral*, 4 = *mostly true or agree*, and 5 = *definitely true or strongly agree*.

## Results

**Preliminary analyses.** I conducted these and all other analyses in this study using SPSS Statistics (version 24). Pearson's correlation, the main analysis used in this study, has three assumptions: variables must be continuous, without extreme outliers, and relatively normally distributed. As demonstrated above, all variables were continuous. To detect extreme outliers, defined as values beyond 3.29 standard deviations from the mean (Garson, 2012), I converted variables to *z*-scores and examined cases where the absolute value exceeded 3.29. To assess

departures from normality, I examined the skew and kurtosis (see Table 14 for these and other descriptive statistics and reliability estimates); some variables were skewed, likely due to outliers. Indeed, six variables had extreme outliers: $PSM_{Time\ 1}$, $PSM_{Time\ 2}$, social justice orientation, outgroup warmth, intergroup interdependence, and impression $management_{Time\ 2}$. For all variables except impression $management_{Time\ 2}$, these outliers represented responses of the lowest scale anchor (e.g., 0 on the outgroup warmth scale); for impression $management_{Time\ 2}$, the total score was particularly high. None seemed to be mistakes or indicative of inattentive responding: For each participant who had outlier responses, such responses were theoretically linked to their other responses (e.g., the participant who scored 0 on outgroup warmth also had relatively high racism; the participant with the high impression management score at Time 2 also reported the highest impression management score at Time 1) and they showed variability in their responses (e.g., not all their answers on all measures were the lowest anchor, which could indicate inattentive responding). For these reasons, and to maintain variability, I did not delete or modify any outliers—even though doing so would have reduced skew.

Table 14 also contains the internal consistency for all composites, assessed using Cronbach's alpha. A low internal consistency indicates that the scores across items are so heterogeneous that the total score does not acceptably measure the intended construct. For this reason, Nunnally (1978) suggests not using measures with reliabilities below .70 in basic research and below .80 in applied research (see also Kline, 2005). By these cut-offs, all but two measures were adequate: Cronbach's alpha was .69 for system justification and .31 for belief in a just world. I thus dropped belief in a just world from further analyses but maintained system justification for exploratory purposes. Gender and PSM scores were uncorrelated at Time 1, $r(257) = .12$, $p = .06$, and Time 2, $r(257) = .05$, $p = .46$.

Table 14

*Study 3: Descriptive and Reliability Statistics*

| Time | Variable | *n* | $\alpha$ | M (*SD*) | Range | Skew (*SE*) | Kurt. (*SE*) |
|---|---|---|---|---|---|---|---|
| Time 1 | PSM Composite | 259 | .91 | 4.85 (1.09) | 1.00-7.00 | -0.74 (0.15) | 1.64 (0.30) |
| | PSM: Allyship | 259 | .85 | 4.72 (1.29) | 1.00-7.00 | -0.47 (0.15) | 0.40 (0.30) |
| | PSM: Cause Connection | 259 | .86 | 4.21 (1.30) | 1.00-7.00 | -0.37 (0.15) | 0.19 (0.30) |
| | PSM: Social Change Commitment | 259 | .91 | 5.62 (1.21) | 1.00-7.00 | -1.55 (0.15) | 3.26 (0.30) |
| | Impression Management | 241 | .75 | 7.16 (3.69) | 0-16 | 0.21 (0.16) | -0.33 (0.31) |
| | Political Orientation | 253 | .80 | 3.88 (1.12) | 1.00-6.67 | -0.39 (0.15) | 0.34 (0.31) |
| | Modern Racism | 253 | .79 | 2.99 (0.79) | 1.00-5.10 | 0.05 (0.15) | -0.53 (0.31) |
| Time 2 | PSM Composite | 256 | .93 | 5.05 (1.12) | 1.00-7.00 | -0.67 (0.15) | 0.82 (0.30) |
| | PSM: Allyship | 259 | .89 | 4.92 (1.29) | 1.00-7.00 | -0.60 (0.15) | 0.36 (0.30) |
| | PSM: Cause Connection | 256 | .88 | 4.42 (1.41) | 1.00-7.00 | -0.35 (0.15) | -0.27 (0.30) |
| | PSM: Social Change Commitment | 259 | .90 | 5.82 (1.09) | 1.00-7.00 | -1.36 (0.15) | 2.57 (0.30) |
| | Compassion for Strangers | 139 | .91 | 5.58 (1.11) | 2.00-7.00 | -1.08 (0.21) | 1.14 (0.41) |
| | Intergroup Interdependence | 139 | -- | 5.88 (1.20) | 1-7 | -1.39 (0.21) | 2.21 (0.41) |
| | Social Justice: Attitudes | 137 | .93 | 6.23 (0.74) | 3.55-7.00 | -1.22 (0.21) | 1.73 (0.41) |
| | Social Justice: Control | 138 | .90 | 5.62 (0.98) | 2.40-7.00 | -0.75 (0.21) | 0.65 (0.41) |
| | Social Justice: Intentions | 139 | .92 | 5.44 (1.15) | 2.00-7.00 | -0.79 (0.21) | 0.42 (0.41) |
| | Outgroup Warmth | 136 | -- | 71.21 (19.85) | 0-100 | -0.81 (0.21) | 1.29 (0.41) |
| | Belief in a Just World | 130 | .31 | 3.87 (0.36) | 2.95-4.85 | 0.20 (0.21) | 0.20 (0.42) |
| | System Justification | 138 | .69 | 4.01 (0.77) | 1.71-6.29 | 0.50 (0.21) | 0.89 (0.41) |
| | Social Dominance | 137 | .89 | 2.55 (0.99) | 1.00-5.13 | 0.27 (0.21) | -0.85 (0.41) |
| | Zero-Sum Competition | 138 | .90 | 2.81 (1.26) | 1.00-6.25 | 0.53 (0.21) | -0.09 (0.41) |
| | Personal Acquaintance | 137 | .81 | 3.69 (0.62) | 1.67-5.00 | -0.61 (0.21) | 0.64 (0.42) |
| | Impression Management | 246 | .74 | 5.86 (3.50) | 0-18 | -0.66 (0.16) | 0.35 (0.31) |

**Main analyses.**

***Convergent validity.*** The correlations between the PSM and the other variables are presented in Table 15. As expected, the PSM positively correlated with compassion for strangers, intergroup interdependence, the three social justice subscales (attitudes, behavioral control, and behavioral intentions), and outgroup warmth; it negatively correlated with conservative political orientation (i.e., higher solidarity was associated with less conservative/more liberal views), modern racism, and social dominance orientation. The PSM did not correlate with system justification.

***Discriminant validity.*** The PSM was unrelated to measures of impression management and personal acquaintance.

***Zero-sum competition.*** The PSM correlated negatively with zero-sum competition.

***Medium-term test-retest stability.*** Table 16 contains the correlations among the PSM composite and subscales at Times 1 and 2. There emerged a large association between the PSM composites at Times 1 and 2; the effect sizes of the test-retest scores for each subscale ranged from medium to large. As an exploratory comparison, the Time 1 and 2 impression management scores correlated at $r(232) = .62$, $p < .001$.

**Supplementary analyses.**

*Does impression management correlate with other measured variables?* As hypothesized, the PSM and impression management were unrelated. Although I interpreted this as evidence of discriminant validity, another possible explanation is that sampled participants do not have social desirability concerns. If so, then impression management scores would not relate to any assessed measures. As per Table 17 this is not the case: Impression management

positively correlated with intergroup interdependence and social justice attitudes, and negatively with social dominance orientation.

*Did PSM scores change over time?* The PSM means in Table 14 suggest that perhaps the PSM scores increased over time. To empirically test this possibility, I conducted a series of dependent *t*-tests (see Table 18). For the PSM composite and each subscale, participants reported higher scores at Time 2 than at Time 1.

**Discussion**

In this study, I sought to establish aspects of the PSM's convergent and discriminant validity using the sets of correlations approach to construct validation (Furr & Bacharach, 2014). Providing discriminant evidence, the PSM was unrelated to impression management (which did relate to other measures) and personal acquaintance. Evidencing convergent validity, the PSM correlated with constructs that assess positive attitudes towards strangers, outgroups, social justice, and distribution of resources and power. Importantly, though, none of these correlations exceeded .85, a common cut-off for multicollinearity and conceptual redundancy (Kline, 2005). In other words, the results indicate that the PSM is related to yet distinct from existing measures of theoretically-similar constructs. To further establish the PSM's convergent and discriminant validity, future research could use other methods, such as *focused associations* (Furr & Bacharach, 2014). In that approach, researchers might compare the PSM to other existing measures said to assess solidarity with outgroups.

Another goal of this study was to establish the PSM's medium-term test-retest stability. Here, I operationalized "medium-term" as 3-6 months. Over this period of time, scores were relatively stable in that although participants' reported scores for each composite or subscale increased at Time 2, each pair of initial and subsequent measurements had correlations that were

Table 15

*Study 3: Correlations Between PSM and Other Variables*

| Time | Variables | PSM | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Composite | | Allyship | | Cause Connection | | Social Change Commitment | |
| | | *r* | *p* | *r* | *p* | *r* | *p* | *r* | *p* |
| Time 1 | Impression Management | .04 | .51 | .07 | .33 | .02 | .71 | .02 | .73 |
| | Political Orientation | -.20 | <.001 | -.14 | .03 | -.13 | .04 | -.25 | <.001 |
| Time 2 | Modern Racism | -.41 | <.001 | -.31 | <.001 | -.29 | <.001 | -.46 | <.001 |
| | Compassion for Strangers | .28 | <.001 | .31 | <.001 | .26 | <.001 | .16 | .06 |
| | Intergroup Interdependence | .19 | .03 | .14 | .11 | .14 | .10 | .23 | .01 |
| | Social Justice: Attitudes | .44 | <.001 | .40 | <.001 | .31 | <.001 | .48 | <.001 |
| | Social Justice: Control | .33 | <.001 | .36 | <.001 | .30 | <.001 | .21 | .02 |
| | Social Justice: Intentions | .50 | <.001 | .51 | <.001 | .48 | <.001 | .33 | <.001 |
| | Outgroup Warmth | .69 | <.001 | .67 | <.001 | .59 | <.001 | .59 | <.001 |
| | System Justification | .01 | .90 | .03 | .70 | .01 | .89 | -.03 | .77 |
| | Social Dominance | -.33 | <.001 | -.26 | <.001 | -.22 | .01 | -.41 | <.001 |
| | Zero-Sum Competition | -.21 | .02 | -.12 | .15 | -.13 | .13 | -.32 | <.001 |
| | Personal Acquaintance | .10 | .27 | .08 | .34 | .07 | .44 | .11 | .19 |
| | Impression Management | -.08 | .23 | -.03 | .65 | .06 | .33 | -.12 | .06 |

Table 16

*Studies 3 and 4: Test-Retest Correlations Among PSM Scores at Time 1 and Time 2*

| | Study 3 | | Study 4 | | Comparison of Study 3 and 4 Correlations | |
|---|---|---|---|---|---|---|
| | *r* | *n* | *r* | *n* | *z* | *p* |
| PSM: Composite | .62 | 256 | .60 | 123 | 0.29 | .77 |
| PSM: Allyship | .62 | 259 | .61 | 125 | 0.15 | .88 |
| PSM: Cause Connection | .58 | 256 | .59 | 124 | -0.14 | .89 |
| PSM: Social Change Commitment | .48 | 259 | .58 | 126 | -1.27 | .20 |

*Note.* For each within-study correlation (i.e., columns 2 and 4), all $p < .001$

Table 17

*Study 3: Correlations Between Impression Management and Other Measures*

| Time | Variables | *r* | *p* |
|---|---|---|---|
| Time 1 | Political Orientation | .02 | .79 |
| | Modern Racism | -.08 | .24 |
| Time 2 | Compassion for Strangers | .07 | .42 |
| | Intergroup Interdependence | .18 | .05 |
| | Social Justice: Attitudes | .20 | .02 |
| | Social Justice: Control | .14 | .10 |
| | Social Justice: Intentions | .10 | .27 |
| | Outgroup Warmth | .13 | .14 |
| | System Justification | .06 | .50 |
| | Social Dominance | -.28 | .001 |
| | Zero-Sum Competition | -.16 | .06 |
| | Personal Acquaintance | .10 | .24 |

Table 18

*Study 3: Changes in Mean PSM Scores Across Time 1 and Time 2*

| Comparison Variable (Times 1 and 2) | *t* | *df* | *p* | 95% CI | $d_{\text{Repeated Measures}}$ | 95% CI |
|---|---|---|---|---|---|---|
| PSM: Composite | -3.51 | 255 | .001 | [-0.33, -0.09] | 0.21 | [0.04, 0.38] |
| PSM: Allyship | -2.95 | 258 | .003 | [-0.34, -0.07] | 0.18 | [0.01, 0.35] |
| PSM: Cause Connection | -2.74 | 255 | .007 | [-0.37, -0.06] | 0.18 | [0.00, 0.35] |
| PSM: Social Change Commitment | -2.75 | 258 | .006 | [-0.35, -0.06] | 0.16 | [-0.01, 0.34] |

medium to large in magnitude. Further, the association between the PSM composite at Times 1 and 2 was equivalent to that of an established individual difference measure (impression management).

Not all relationships unfolded as hypothesized. Recall that I expected political solidarity to correlate negatively with belief in a just world and system justification. The internal consistency was so poor for the Belief in a Just World Scale that I did not include it in my analyses. This finding is consistent with some past research that has also found this scale to have low internal consistency, which is one reason researchers have long debated this scale's

psychometric properties (Couch, 1998). Future research should consider testing the hypothesized negative correlation using either a different measure of this construct or a more specific instantiation, such as a measure of the outgroup's perceived deservingness of their disadvantage (Drolet & Hafer, 2016; Hafer, 2011). Though not as severe, internal consistency for the system justification measure was also inadequate (Nunnally, 1978). I nonetheless retained it in analyses and found that, contrary to hypotheses, it did not correlate with the PSM. A candidate explanation for the lack of association is merely the system justification measure's poor internal consistency. Future research should replicate this work to further investigate the associations between system justification and political solidarity, for various social issues. I had hypothesized a negative association, but there are likely instances wherein a positive association would exist. Whereas system justification was long conceptualized as a motivation to resist changes to psychologically-important social systems (e.g., government), even high system justifiers may support social change if it seems consistent with the system's values and ideals (e.g., Calogero & Tylka, 2014; Feygina, Jost, & Goldsmith, 2010; Gaucher, Friesen, Neufeld, & Esses, 2017; Jost, 2015). When possible, future research could also consider using system justification scales that are specific to the context. For example, when studying men's political solidarity for gendered pay equality, researchers could consider using measures of gender-specific system justification (Jost & Kay, 2005) or economic system justification (Jost & Thompson, 2000). Using system justification measures that are more conceptually linked to the studied context may result in higher correlations with political solidarity for that group and issue.

### Study 4: Short-Term Test-Retest Reliability of the PSM

Study 4 assessed the PSM's short-term test-retest reliability by comparing scores over a 3-week span. Given the results of Study 3, I expected large correlations between the Time 1 and

2 measurements of each subscale or of the composite. I also assessed the test-retest reliability of two other measures, impression management and personal acquaintance, to have comparison points: If the PSM had an unexpectedly low or absent retest correlation, the other measures' retest scores might help discern why. Prior research has found both impression management and personal acquaintance to be relatively stable over three weeks (Starzyk et al., 2006). So, if the PSM demonstrated poor test-retest reliability but the other two measures did not, then perhaps the reason had to do with history effects, not an unconscientiously-responding sample.

## Method

**Participants and procedure.** Data collection occurred at two time points in fall 2017. One hundred and ninety undergraduate students at the University of Winnipeg completed one of five versions of the PSM at Time 1. The rationale for this sample size was to recruit enough participants such that at Time 2, I would have 134 participants, which should provide 95% power to detect a medium effect (Faul et al., 2009). Participants accessed the survey online through the psychology research participation pool website (SONA) and received 0.5 research participation credits. The Time 1 survey measures were political solidarity, impression management, and personal acquaintance (described in Study 3); participants also provided demographic information.

Time 2 recruitment happened in one of two ways. At the end of the Time 1 survey, participants indicated whether I could contact them to participate in a follow-up study (Time 2); nearly all did. Approximately three weeks later, I emailed these participants an invitation to complete the study on SONA. A few participants who had not consented to me contacting them saw the study advertised on SONA and requested participation. Again, the only measures assessed in this study were the PSM (the same version they completed at Time 1; see Appendix

C for the distribution across issues), impression management, and personal acquaintance. Participants received an additional 0.5 credits for completing the second survey. The consent forms for the surveys are in Appendixes J and K. The University of Winnipeg's Research Ethics Board approved this research.

One hundred and thirty participants completed the Time 2 study and thus comprise the final Study 4 sample. Most participants reported "female" as their gender identity and "White" as their ethnicity; on average, participants were 19.86 years old (*SD* = 3.93). Other demographic information is in Table 19. Although this sample size is slightly below the target of 134 participants, a post-hoc power analysis indicated that I nonetheless obtained 95% power to detect

Table 19

*Study 4: Participant Demographics*

| | *n* | % |
|---|---|---|
| Gender Identity | | |
| Female | 108 | 83.1 |
| Male | 19 | 14.6 |
| Two-Spirit | 3 | 2.3 |
| Ethnicity | | |
| Arab (E.g., Egyptian, Kuwaiti, Libyan) | 2 | 1.5 |
| Black (E.g., African, Nigerian, Somali) | 5 | 3.8 |
| Chinese | 2 | 1.5 |
| Filipino | 14 | 10.8 |
| Indigenous (First Nations, Métis, Inuit, Non-Status Aboriginal) | 18 | 13.8 |
| Korean | 2 | 1.5 |
| Latin American (E.g., Chilean, Costa Rican, Mexican) | 3 | 2.3 |
| South Asian (E.g., Bangladeshi, Punjabi, Sri Lankan) | 2 | 1.5 |
| Southeast Asian (E.g., Vietnamese, Cambodian, Malaysian, Laotian) | 4 | 3.1 |
| West Asian (E.g., Afghan, Assyrian, Iranian) | 1 | 0.8 |
| White | 85 | 65.4 |
| Other | 7 | 5.4 |
| Country of Birth | | |
| Canada | 106 | 81.5 |
| Another Country | 24 | 18.5 |

a medium correlation (Faul et al., 2009).

**Measures.** At both Times 1 and 2, participants completed the PSM, Paulhus's (1998) measure of social desirability, and Starzyk et al.'s (2006) Personal Acquaintance Measure. These measures were presented as described in Study 3, with one exception. To increase the clarity and specificity of three Cause Connection items, I replaced the word "cause" with the actual name of the group's cause (e.g., "Black Lives Matter"; see Appendix L).

## Results

**Preliminary analyses.** Table 20 contains descriptive statistics and internal consistency estimates. The main analysis (Pearson's correlation)—and analytic assumptions—for this study are the same as in Study 3. Using the same method described above, I identified four outlying scores (the personal acquaintance measure at Time 1, the PSM at Time 1, and the social change composite of the PSM at Times 1 and 2) across three participants. These scores were all on the low end of the scale and did not seem to be errors. Given this, and that their removal would further skew the data, I did not delete the outliers. Gender and the PSM were uncorrelated at Time 1, $r(119) = .04$, $p = .69$, and Time 2, $r(120) = -.07$, $p = .48$. I conducted all analyses in this study using SPSS software (version 24).

**Main analyses: Three-week test-retest reliability.** The test-retest correlations between Time 1 and 2 PSM composites and subscales are presented in Table 16 (columns 3-4); all were large in magnitude. This was also true of the test-retest scores for personal acquaintance, $r(123) = .60$, $p < .001$, and impression management, $r(123) = .80$, $p < .001$.

**Supplementary analyses.**

***Comparison of correlations.*** How did the PSM's three-week test-retest reliability compare to that of established measures? Using Lowry's (2017) online calculator, I computed

Table 20

*Study 4: Descriptive and Reliability Statistics*

| | Variable | *n* | $\alpha$ | *M* (*SD*) | Range | Skew (SE) | Kurt. (SE) |
|---|---|---|---|---|---|---|---|
| Time 1 | PSM Composite | 126 | .89 | 5.06 (1.02) | 1.00-7.00 | -0.56 (0.22) | 1.01 (0.43) |
| | PSM: Allyship | 126 | .82 | 4.96 (1.24) | 1.00-7.00 | -0.63 (0.22) | 0.57 (0.43) |
| | PSM: Cause Connection | 126 | .79 | 4.28 (1.27) | 1.00-7.00 | -0.19 (0.22) | -0.03 (0.43) |
| | PSM: Social Change Commitment | 126 | .85 | 5.94 (1.07) | 1.00-7.00 | -1.17 (0.22) | 2.26 (0.43) |
| | Personal Acquaintance | 126 | .81 | 3.80 (0.61) | 1.78-4.94 | -0.51 (0.22) | 0.44 (0.43) |
| | Impression Management | 125 | .80 | 6.60 (3.69) | 0.00-16.00 | 0.39 (0.22) | -0.44 (0.43) |
| Time 2 | PSM Composite | 126 | .92 | 5.06 (1.18) | 1.33-7.00 | -0.48 (0.22) | -0.02 (0.43) |
| | PSM: Allyship | 126 | .89 | 4.78 (1.43) | 1.00-7.00 | -0.45 (0.22) | -0.23 (0.43) |
| | PSM: Cause Connection | 126 | .85 | 4.57 (1.39) | 1.00-7.00 | -0.32 (0.22) | -0.29 (0.43) |
| | PSM: Social Change Commitment | 126 | .92 | 5.85 (1.18) | 1.00-7.00 | -1.18 (0.22) | 1.48 (0.43) |
| | Personal Acquaintance | 126 | .77 | 3.76 (0.58) | 2.00-4.94 | -0.1 (0.22) | 0.22 (-0.14) |
| | Impression Management | 126 | .83 | 6.17 (3.82) | 0.00-17.00 | 0.61 (0.22) | 0.22 (0.02) |

Fisher *r*-to-*z* transformations, which compare correlation coefficients. Results indicated that the PSM's test-retest reliability was weaker than that of the impression management measure, $z = -3.17$, $p = .002$, but was equivalent to that of the personal acquaintance measure, $z = 0.05$, $p = .96$.

It is also possible to compare the strength of the PSM's short- and medium-term test-retest correlations. Further Fisher *r*-to-*z* transformations, shown in the final two columns of Table 16, indicate the PSM's test-retest stability in the short-term was the same as

in the medium-term (i.e., in Study 3). In comparison, the impression management measure's medium-term test-retest stability was weaker than its short-term test-retest stability, $z = -2.60$, $p = .001$.

***Did PSM scores change over time?*** As in Study 3, I calculated dependent *t*-tests to assess whether PSM scores changed over time (see Table 21). Only Cause Connection scores changed, with a small increase from Time 1 to Time 2.

Table 21

*Study 4: Changes in Mean PSM Scores Across Time 1 and Time 2*

| Comparison Variable (Times 1 and 2) | *t* | *df* | *p* | 95% CI | $d_{\text{Repeated Measures}}$ | 95% CI |
|---|---|---|---|---|---|---|
| PSM: Composite | -0.13 | 122 | .90 | [-0.19, 0.17] | 0.01 | [-0.24, 0.26] |
| PSM: Allyship | 1.55 | 124 | .12 | [-0.05, 0.38] | -0.15 | [-0.40, 0.10] |
| PSM: Cause Connection | -2.68 | 123 | .01 | [-0.50, -0.08] | 0.26 | [0.01, 0.51] |
| PSM: Social Change Commitment | 0.97 | 125 | .33 | [-0.09, 0.27] | -0.09 | [-0.34, 0.16] |

**Discussion**

Across a range of issues, participants' self-reported political solidarity correlated at .60 with follow-up measurements three weeks later. A potential criticism of the finding is that the PSM's test-retest stability is not as strong as the impression management measure's. Yet this discrepancy is perhaps unsurprising as the PSM measures attitudes towards social issues, which tend to be relatively less stable over time than other individual differences and traits (Conley, 1984), such as desirable responding. Nonetheless, the PSM's three-week test-retest correlation is encouraging in many ways. This effect size is large and statistically equivalent to the three-week test-retest score of a previously validated measure, the Personal Acquaintance Measure. Moreover, the PSM's 3-week test-retest association is statistically equivalent to its 3-6-month test-retest found in another sample (Study 3). Put differently, it seems that the PSM is equally predictive of subsequent PSM measurements three weeks later and three to six months later. Of

course, that is assuming little or no history effects. People's attitudes toward social groups and issues can shift based on various factors, such as increased familiarity with or knowledge about the issue (Neufeld, Starzyk, Boese, & Wright, 2018). The views of a prominent leader can also produce corresponding shifts in public attitudes, resulting from normative shifts (Crandell, Miller, & White II, 2018) or the motivation to justify the system the leader represents (Gaucher et al., 2018). Future research should explore whether the PSM is sensitive to such changes.

## Study 5: Predictive Utility of the PSM

Study 5 investigated the predictive utility of the PSM. The PSM measures participants' political solidarity in terms of their self-reported *attitudes*. While this sentiment is of both theoretical and applied importance, its importance is arguably much greater if it can predict political solidarity that manifests in relevant *behavior*. Relatedly, if the PSM is truly tapping feelings of solidarity, then it should be associated with intended and actual behaviors that evince solidarity. Study 5 thus tests the strength of the association between PSM scores and collective action benefitting a minority outgroup. I tested this prediction in the context of non-Indigenous students' feelings of political solidarity towards reconciliation with Indigenous Peoples in Canada.

A secondary goal of this study was to demonstrate that political solidarity—and any subsequent effects on collective action—is not simply a lack of prejudiced attitudes towards the outgroup in question. Considering this study centers on issues of reconciliation with Indigenous Peoples in Canada, it seemed prudent to assess participants' racism. Relative to other groups in Canada, Indigenous Peoples face relatively high levels of discrimination and prejudice from citizens and systems (e.g., Allan & Smylie, 2015; Amnesty International, n.d.; Leber, 2017; Neegan Burnside, 2011). Attitudes are particularly negative among non-Indigenous Canadians

living in the prairie provinces, which is where I conducted the current research (Environics Institute, 2016). Given this, and that racism is an important predictor of peoples' attitudes towards social issues, policy, and action (McConahay, 1982; 1986; Saunders, Kelly, Cohen, & Guarino, 2016; Shen & LaBouff, 2016), I tested whether political solidarity would predict collective action benefitting Indigenous Peoples, even when controlling for modern racism.

## Method

**Participants.** Two hundred and twenty-five undergraduate Introduction to Psychology students at the University of Manitoba completed this study for 1 research participation credit and $5. Because the study focused on political solidarity for Indigenous issues, I excluded the four Indigenous participants from analyses. The final sample size was 221, which reached my target of 95% power to detect an effect that was between small and medium in size (i.e., $f^2$ = .085) in a multiple regression model with two predictors (Faul et al., 2009). Roughly half of the sample identified "White" as their ethnicity and most identified as female; Table 22 contains more detailed demographics.

**Procedure.** This study was conducted in November and December 2017. Participants signed up for the study on SONA and attended in-person experimental sessions. Up to three participants completed the study at once, though they completed the study independently in separate rooms. Each room had two workstations (a desk with a chair and computer) separated by a divider; one workstation also had the participant payment in an envelope and a donation box, angled such that participants could not see it when they entered the room or completed the survey. A research assistant instructed participants to sit at the workstation without the envelope and donation box, recited the opening script (see Appendix M), and then left the room.

Table 22

*Study 5: Participant Demographics*

| | *n* | % |
|---|---|---|
| Gender Identity | | |
| Female | 132 | 60.0 |
| Male | 88 | 40.0 |
| Ethnicity | | |
| Arab (E.g., Egyptian, Kuwaiti, Libyan) | 4 | 1.8 |
| Black (E.g., African, Nigerian, Somali) | 36 | 16.4 |
| Chinese | 11 | 5.0 |
| Filipino | 18 | 8.2 |
| Indigenous (First Nations, Métis, Inuit, Non-Status Aboriginal) | | |
| Korean | 3 | 1.4 |
| Latin American (E.g., Chilean, Costa Rican, Mexican) | 3 | 1.4 |
| South Asian (E.g., Bangladeshi, Punjabi, Sri Lankan) | 15 | 6.8 |
| Southeast Asian (E.g., Vietnamese, Cambodian, Malaysian, Laotian) | 13 | 5.9 |
| West Asian (E.g., Afghan, Assyrian, Iranian) | 5 | 2.3 |
| White | 109 | 49.5 |
| Other | 15 | 6.8 |

Participants then began the survey, first providing informed consent (Appendix N) and demographic information, and then completed the modern racism scale. Next, they read a factual passage describing Indian residential schools and indicated their political solidarity towards reconciliation with Indigenous Peoples in Canada. Then they completed the first collective action measure, wherein they indicated whether they would like to create a written or video message for an ostensible on-campus reconciliation campaign. Following that was the second measure of collective action. The survey instructed participants to collect their $5 payment from the adjacent workspace, which also contained a donation box. Participants could donate any amount of their payment to a real reconciliation charity. After making their donation (or not), participants notified the experimenter. Following a script (see Appendix M), the

experimenter fully debriefed participants and gave them an opportunity to withdraw their donation, if they had made one.

**Materials.** All materials are described below. Except where otherwise noted, measures use a seven-point scale with options ranging from 1 = *strongly disagree*; 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neither disagree nor agree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*. Participants completed measures in the following order.

***Modern racism.*** I assessed this construct using the same scale described in Study 3.

***Passage.*** The instructions for the passage read, "On the next page, you will read a short description of a social issue. Please read this carefully; you will be asked questions about it later." The following passage, which was created for this project, appeared on the next page:

> For over 100 years, Indigenous children were removed from their families and sent to institutions called residential schools. Until the mid-1990s, government-funded, church-run schools were located across Canada to eliminate parental involvement in the spiritual, cultural, and intellectual development of Indigenous children. More than 150,000 First Nations, Métis, and Inuit children were forced to attend these schools, some of which were hundreds of miles from their home.
>
> Separated from their families, the experience was often marked by abuse and other traumatic experiences. Through the transmission of intergenerational trauma, survivors' experiences continue also negatively affect their descendants, such as children and grandchildren.
>
> To address the legacy of Residential Schools and the damaged relationship between Indigenous peoples and others in Canada, many are calling for reconciliation. Reconciliation can only occur, though, if all peoples work together.

***PSM.*** Participants completed the nine political solidarity items adapted for the context of reconciliation with Indigenous Peoples in Canada. The three cause connection items follow the format used in Study 4 and outlined in Appendix L.

***Collective action intentions: Messages of support.*** Participants learned of an ostensible student group and their multimedia reconciliation campaign. They read that,

> As part of their efforts towards reconciliation, The University of Manitoba's Indigenous Student Council (ISC) is creating a multimedia campaign. The ISC is looking for non-Indigenous U of M students to provide messages of support for reconciliation with Indigenous peoples in Canada. There are two types of messages they're interested in that you can complete now, if you so choose.

Participants then read the following descriptions of the two types of messages, a written message or a video message, which were crafted to make the tasks sound relatively easy to complete (e.g., quick, supplies were provided).

> **Video messages**
>
> The ISC will compile video messages into a video that will be unveiled on campus during the winter term orientation week. The video may also be played on the campus television screens and its social media accounts.
>
> If you would like to create a video message, the research assistant will provide you with a script or you can create your own message. Each video is 10 seconds in duration maximum. You will be able to record the video in private (the experimenter will not be in the room), and you can retake the video as many times as you would like.

**Written messages**

The ISC is also looking for written messages. They will compile these messages into a mosaic that will be on display in University Centre during the winter term orientation week.

If you would like to create a written message, the research assistant will provide the supplies, such as markers and paper. You do not need to sign your name on the message if you don't want to.

The subsequent instructions read, "Would you like to create a short video or written message now?" There were four response options: "No thank you", "Yes, I would like to create a brief video now", "Yes, I would like to create a brief written message now", and "Yes, I would like to create both a brief video and written message now." Participants who chose any of the "yes" options received an additional message indicating that the experimenter had been notified and would begin preparing the equipment in another room. Participants who declined to create any messages did not receive additional instructions. Participants only *indicated* whether they would create a message; they did not actually create messages during this study. I coded responses of "no thank you" as 0, and agreement to create at least one of the messages as 1.[5]

***Collective action behavior: Donations.*** Participants read the following instructions:

Thank you for taking this survey!

[5] Instead of dichotomizing the message of support variable and performing logistic regression, one could retain the four categories and perform multinomial/polychotomous logistic regression. However, to do so here would not be meaningful, due to some cell sizes being small.

> In appreciation of your time, you will receive $5 and a course credit in exchange for your participation. The $5 is in an envelope labelled "Participant Payment" and is on the desk beside you.
>
> The desk also has a donation collection container for a nonprofit organization, Reconciliation Canada, whose goal is to solve the types of issues that you read about earlier.
>
> You have the opportunity to donate as much or as little of the $5 as you would like. Some participants donate all of their money, some donate a portion, and some people donate none. The choice is entirely up to you. No matter how much you donate, you will still receive your participation credit.
>
> Now, take your payment from the desk beside you and decide whether you want to make a donation. If you do want to make a donation, put it in the donation box. Take any remaining money for yourself. Once you have done so, please exit the room and see the experimenter for further instructions.

Each envelope contained five $1 CD coins. If participants chose to donate, they inserted coins into a locked, opaque donation box that contained $3.80 CD. Although participants could not see this additional money, I included it to reinforce the illusion that some prior participants had already donated: Participants would hear the other money if they were to shake the box or insert coins. After the experimental session, the research assistant unlocked the box. They calculated the donation by subtracting $3.80 from the total money in the box. In theory, possible scores were $0, $1, $2, $3, $4, and $5; however, participants sometimes additionally or alternatively donated other money they had. For these reasons, donations ranged from $0 to $6.80. At the end of this experiment, I forwarded all donations to the charity.

## Results

**Preliminary analyses.** The descriptive statistics for all variables except message of support are in Table 23 and correlations among variables are in Table 24. Of the 215 participants who responded to the message of support item, 44 indicated willingness to create a message. The PSM correlated with gender, $r(217) = .25$, $p < .001$.

Table 23

*Study 5: Descriptive Statistics*

| | *n* | $\alpha$ | *M* (*SD*) | Range | Skew (*SE*) | Kurt. (*SE*) |
|---|---|---|---|---|---|---|
| PSM: Composite | 219 | .89 | 4.80 (1.00) | 1.22-7.00 | -0.46 (0.16) | 0.58 (0.33) |
| PSM: Allyship | 219 | .79 | 4.49 (1.11) | 1.00-7.00 | -0.27 (0.16) | 0.55 (0.33) |
| PSM: Cause Connection | 219 | .83 | 4.09 (1.36) | 1.00-7.00 | -0.01 (0.16) | -0.38 (0.33) |
| PSM: Social Change Commitment | 220 | .87 | 5.83 (1.07) | 1.00-7.00 | -1.21 (0.16) | 2.02 (0.33) |
| Modern Racism | 216 | .83 | 2.70 (0.89) | 1.00-5.50 | 0.39 (0.17) | -0.27 (0.33) |
| Donations | 219 | -- | 2.41 (2.06) | 0.00-6.80 | 0.26 (0.16) | -1.55 (0.33) |

Table 24

*Study 5: Correlations Among Variables*

| | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| 1: PSM: Composite | .83** | .88** | .82** | -.52** | .23** | .34** |
| 2: PSM: Allyship | | .59** | .54** | -.34** | .14* | .24** |
| 3: PSM: Cause Connection | | | .58** | -.38** | .25** | .35** |
| 4: PSM: Social Change Commitment | | | | -.63** | .19* | .26** |
| 5: Modern Racism | | | | | -.12 | -.21** |
| 6: Donation | | | | | | .11 |
| 7: Message of Support | | | | | | |

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

***Assumption testing for multiple linear regression.*** Field (2009) lists nine assumptions for multiple linear regression (see also Berry, 1993), one of the main planned analyses for this study. First, multiple linear regression requires the predictor variables (here, political solidarity and modern racism) and outcome variable (donations) be quantitative and the outcome variable be continuous and unbounded (i.e., no restricted range; Assumption 1). Further, for each

predictor variable, every observation must come from a different participant (Assumption 2). Satisfying these two assumptions, all variables were indeed quantitative and completed once by each participant, and Table 23 verifies the donation variable is continuous and did not have a restricted range. Table 23 also demonstrates that the predictors have non-zero variance (Assumption 3). In multiple regression, predictors cannot be multicolinear (Assumption 4). Common indicators of multicolinearity are a correlation above .80 or .90 or a variance inflation factor above 10 (Field, 2009). The predictors, modern racism and political solidarity, were not multicolinear as per their correlation *(r* = -.52) and variance inflation factor (1.38). Assumption 5 is homoscedasticity, which is frequently determined by visually inspecting a scatterplot of the standardized versus studentized residuals for a cone-shaped pattern; they did not conform to such a pattern. I also ensured that the standardized residuals were normally distributed (Assumption 6) by calculating their skew (0.27; *SE* = 0.17) and kurtosis (-1.37; *SE* = 0.33); these values were within the recommended guidelines, discussed earlier. The seventh assumption is independence of errors. The Durbin-Watson value was near 2 (2.13), which is within the guidelines of 1 to 3 and thus indicates the assumption is met (Field, 2009). Assumption 8 is that there should exist no unmeasured predictors that correlate with the predictor variables; otherwise, those unmeasured variables might explain any relationships just as well as or better than the predictors. Of course, this assumption is rarely met outside of hypothetical models, but is a helpful reminder of the test's limitations.

Finally, Assumption 9 is that there exists a linear relationship between "the mean values of the outcome variable for each increment of the predictor(s)" (Field, 2009, p. 221). I conducted several tests of non-normality, which yielded conflicting results. For instance, one test of linearity is to calculate Pearson correlation coefficients for each predictor and outcome

and compare the correlation to their η in an ANOVA; if the correlation is smaller than η, the relationship is likely linear. This was the case for both modern racism, $r(219) = -.12$, $\eta = .36$, and political solidarity, $r(219) = .23$, $\eta = .39$, signaling that Assumption 9 was met. Another way to assess linearity is to conduct ANOVAs of linearity, where a nonsignificant *p* value indicates that the relationship is linear. Contrary to the above test of linearity, the ANOVAs of linearity indicated a linear relationship between modern racism and donations, $F(1, 176) = 2.67$, $p = .10$, but a nonlinear relationship between political solidarity and donations, $F(1, 179) = 11.49$, $p = .001$. In light of these contradictions, I decided to test the relationships among political solidarity, modern racism, and donations using both multiple linear regression and robust multiple linear regression, as the latter is robust to this assumption violation.

***Assumption testing for logistic regression.*** I also planned to conduct a logistic regression where political solidarity and modern racism were predictors and whether participants agreed to create a message of support was the outcome variable. This statistical test has three assumptions (Field, 2009); two are multicollinearity and independence of errors, which are evidenced above. The other assumption is checked as part of the regression analysis, and is discussed below.

**Main analyses.**

***Collective action behavior: Donations.*** Using multiple linear regression, I specified political solidarity and modern racism as the independent variables and donations as the dependent variable. I also ran an analogous bootstrapped linear regression with 10,000 percentile bootstraps. As per Table 25, political solidarity was significantly associated with participant donations, whereas modern racism was not. The similarity of the non-bootstrapped

and bootstrapped estimates (i.e., *p* values, standard errors, and confidence intervals) and the low bias estimates indicate that the assumption of linearity was met.

***Collective action behavioral intentions: Message of support.*** To determine whether political solidarity predicted whether participants agreed to complete at least one message of support, I conducted a binary logistic regression where messages of support was the dependent variable and political solidarity and modern racism were the independent variables (Table 26). Political solidarity significantly predicted whether participants agreed to create a message of support for the on-campus campaign: For every unit increase in political solidarity, the change in odds of agreeing to create a message (rather than not agreeing to create a message) is 3. Put differently, participants were more likely to agree, than not agree, to create a message of support if they had high political solidarity. Modern racism, however, did not significantly predict agreement to create messages of support.

Table 25

*Study 5: Linear Multiple Regression Results for Impact of Predictors on Donations*

| Predictor | Non-Bootstrapped Estimates | | | | | Bootstrapped Estimates | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *b* (SE) | *β* | 95% CI | *t* | *p* | Bias | *SE* | 95% CI | *p* |
| Constant | -0.13 (1.11) | -- | [-2.32, 2.07] | -0.12 | .91 | -.001 | 1.17 | [-2.38, 2.23] | .91 |
| PSM | 0.51 (0.16) | .25 | [0.20, 0.83] | 3.21 | .002 | .000 | 0.17 | [0.18, 0.84] | .003 |
| Modern Racism | 0.40 (0.18) | .02 | [-0.32, 0.40] | 0.22 | .83 | .002 | 0.19 | [-0.33, 0.41] | .84 |

*Note.* $N = 215$. $R^2 = .06$. Bootstrapped estimates are based on 10,000 percentile bootstraps.

Table 26

*Study 5: Binary Logistic Regression Results for Impact of Predictors on Likelihood of Agreeing to Create a Message of Support*

| Predictor | *b* (SE) | *p* | Odds Ratio | 95% CI |
|---|---|---|---|---|
| Constant | -6.66 (1.79) | <.001 | 0.001 | -- |
| Political Solidarity | 1.09 (0.27) | <.001 | 2.98 | [1.76, 5.05] |
| Modern Racism | -0.15 (0.26) | .56 | 0.86 | [0.52, 1.42] |

*Note*. $N = 216$. Nagelkerke's $R^2 = .21$. Hosmer-Lemeshow Goodness of Fit $\chi^2(8) = 5.78$, $p = .67$.

**Supplementary analyses.**

***Final assumption test.*** Wanting to ensure the validity of the logistic regression analysis, I tested the test's remaining assumption: that the logit is linear. To do so, I re-ran the above model with interaction terms between each predictor and its natural log (Field, 2009). The fact that neither interaction term was significant [Modern racism x its ln: $B(SE)$ = -5.09 (3.04), $p$ = .09; PSM x its ln: $B(SE)$ = 0.15 (1.25), $p$ = .91] indicates that the assumption was satisfied.

***Do political solidarity and modern racism interact?*** To explore whether political solidarity and modern racism have interactive effects on donations or messages of support, I re-ran the above regression analyses. This time, I mean-centered political solidarity and modern racism, then calculated their interaction; these three variables were the independent variables. Political solidarity and modern racism did not have significantly interactive effects on donations, $\beta$ = -.06, $p$ = .41, nor on messages of support, $b$ = -0.24, $p$ = .33.

***Does political solidarity still predict collective action when gender is included as a covariate?*** Because gender was related to political solidarity, it is prudent to test whether political solidarity still predicts the outcomes even when gender is included as a covariate in the models. I re-ran the above-described main analyses and added gender as an additional independent variable. In the multiple linear regression where donations was the dependent variable, political solidarity significantly impacted participant donations, $\beta$ = .25, $p$ = .002, whereas there was no impact of modern racism, $\beta$ = .02, $p$ = .83, or gender, $\beta$ = -.01, $p$ = .87. Similarly, in the logistic regression, political solidarity was the only significant predictor of whether participants agreed to create a message of support: for political solidarity, $b$ = 1.17, $SE$ = 0.28, $p$ < .001, $OR$ = 3.21, 95% CI [1.87, 5.50]; for modern racism, $b$ = -0.21, $SE$ = 0.27, $p$ = .43, $OR$ = 0.81, 95% CI [0.48, 1.37]; for gender, $b$ = -0.74, $SE$ = 0.41, $p$ = .07, $OR$ = 0.48, 95% CI

[0.21, 1.06]. This is perhaps unsurprising because although gender correlated with the PSM, it did not correlate with donations, $r(222) = .06$, $p = .41$, or with agreement to create a message of support, $r(223) = -.01$, $p = .84$.

***Did social desirability concerns hamper modern racism scores?*** Further supplemental analyses explored a potential reason why modern racism correlated with both outcomes but did not predict either outcome in regression models that also contained political solidarity: social desirability concerns. In this study, which was conducted in person, participants completed the modern racism scale immediately after providing identifying demographic information. Perhaps completing this measure during an in-person survey with identifiable information led participants to underreport their modern racism scores, so much so that modern racism could not compete with political solidarity in either regression model. If so, perhaps modern racism scores collected less proximally to personal information might be significantly higher than the scores reported here, *and* more strongly impact the dependent measures. Given that I had these participants' modern racism scores from a larger prescreening study, I was able to test this possibility.

Participants completed the prescreening study online throughout the fall 2017 academic term, and did so before completing Study 5. The prescreen survey did begin with identifiable demographic questions, but modern racism appeared much later in that survey. Participants' modern racism scores in the prescreen and Study 5 were highly correlated, $r(213) = .87$, $p < .001$. A paired subjects *t*-test indicated that modern racism scores at Study 5 were significantly lower than at prescreen ($M_{\text{Study 5}} = 2.69$, $SD = 0.88$; $M_{\text{Prescreen}} = 2.80$, $SD = 0.90$), $t(213) = -3.67$, 95% *CI* [-0.17, -0.05], $p < .001$, which could be due to less social desirability, among other possibilities. Re-running the regression analyses with modern racism scores from prescreening, however, did not render appreciably different results (see Appendix O). It is therefore possible

that social desirability played a role in participants' modern racism scores, yet social desirability alone does not explain why modern racism correlated to the outcomes independently but did not predict them when entered intro regression models simultaneously with political solidarity.

**Discussion**

The results of this study provide evidence of the PSM's predictive utility. Non-Indigenous participants who reported higher political solidarity for reconciliation with Indigenous Peoples were more likely to agree (than not) to create at least one message of support. These participants also donated more money to a reconciliation charity. Importantly, these results emerged despite controlling for modern racism, which independently correlated with both outcomes (though only marginally for donations). Thus, the PSM predicted not only theoretically-relevant behavioral intentions, but actual behavior as well. Future research should test this association in other contexts to assess its generalizability.

Future research should also investigate why modern racism independently correlated with both outcomes (marginally for donations) but did not predict them when entered in regression models alongside political solidarity. The supplemental analysis suggests that social desirability may play a role but does not fully account for this finding. Suggestions for more rigorous tests include randomly assigning participants to provide demographic information at the start or end of the survey, and/or randomly assigning participants to complete the survey in-person and online. Regardless, there are other candidate explanations for this finding.

One possibility pertains to the differences in specificity between these constructs and their measures. Modern racism, as both a construct and measure, taps antipathy towards a broad array of minority groups and related policies in Canada. Although some of the items could apply to Indigenous Peoples in Canada, none of the items directly assess feelings towards Indigenous

Peoples in Canada (the focal minority outgroup in the current study). By contrast, the PSM explicitly mentions both the minority outgroup and their cause. In general, the more a dependent variable and independent variable are matched in specificity, the stronger they should correlate (Fabrigar & Wegener, 2012). Considered in this way, it makes sense that political solidarity out-predicted modern racism—which evidences its unique predictive utility, relatively-speaking.

Another possibility might relate to the fact that modern racism scores had a restricted range. These composite scores ranged from 1.0-5.5, even though 7 is the possible maximum. Perhaps a sample with participants who are higher in modern racism might result in a stronger association between this construct and the behavioural outcomes assessed here—one strong enough to persist when political solidarity is simultaneously considered in a regression equation. Future research could test this possibility in various ways, including with a more politically- or educationally-diverse sample.

A potential limitation of this study is demand characteristics. For instance, I did not include filler items or measures. The rationale for this choice was to minimize the experimental session time and in turn, maximize the sample size: Remember that only one or two participants attended each in-person experimental session, and that each session involved some preparation before and after. A possible trade-off of not having filler items is that participants may have been wise to the goal of the study, and thus felt pressure to act in a correspondingly socially-desirable fashion. Similarly, we did not explicitly state that any donations made would remain anonymous. It is possible, then, that participants who reported high political solidarity were motivated to appear consistent and subsequently donated more money than they would have otherwise, and vice versa. Although social desirability concerns may have influenced the results in these ways, they do not appear to have done so in a terribly strong manner. If participants

knew the study's goal and were motivated to provide socially-desirable responses, presumably political solidarity and the collective action measures would have had ceiling effects, but they did not; if participants were motivated to respond in a highly consistent fashion, then the correlations amongst these variables likely would have been at least moderately sized, but they were small. Regardless, future research would do well to test whether the observed relationships between political solidarity and behavior hold when the study's purpose is less clear.

## General Discussion

Across five studies, I developed and validated a brief measure of political solidarity, the Political Solidarity Measure (PSM). Following Furr's (2011) four-step process for scale development, I first defined the construct and the contexts in which the scale might be used. Drawing from social movements, experimental research in social psychology, and theorizing in philosophy and other disciplines, I defined political solidarity as the degree to which a person "stands with" a minority outgroup and their cause and is committed to working alongside them to achieve the desired social change. In terms of context, I envisioned that the scale would be used predominantly by social psychologists, who typically sample university students using computer-based methods and may prefer a relatively brief measure. As a second step in scale development, Furr (2011) recommends deciding on a response format and forming an initial item pool. Along with my dissertation co-supervisors, both experts in the psychology of social justice, I generated an initial pool of 30 items intended to reflect aspects of the above definition of political solidarity. Because six or seven response options is the optimal number of options in terms of minimizing error, especially when each item has a meaningful written label (Furr, 2011), possible response options ranged from 1 = *strongly disagree* to 7 = *strongly agree*. The

items were written to facilitate assessment of political solidarity towards ranging disadvantaged outgroups and issues.

I completed Step 3, collecting data, and Step 4, evaluating the measure's psychometric properties (Furr, 2011), in studies administered to undergraduate students on computers (online, except where otherwise noted). In Study 1, participants completed the initial item pool. Exploratory factor analyses suggested a three-factor solution best fit the data. Aligned with the proposed definition of political solidarity, the three factors were Allyship, Cause Connection, and Social Change Commitment. I then chose three items for each factor, which together formed the nine-item PSM. Confirmatory factor analyses in Study 2 provided further support for the hypothesized factor structure. Studies 3 and 4 demonstrated that the PSM has adequate retest stability, both in the short- and medium-terms. Study 3 additionally evidenced aspects of the PSM's convergent and discriminant validity. Political solidarity significantly correlated with (but was not redundant with) several theoretically-relevant constructs: Scores correlated with traits such as compassion, attitudes towards the target outgroup (i.e., warmth, zero-sum competition), attitudes towards justice and equality more generally (i.e., social dominance orientation, modern racism, intergroup interdependence, and social justice), and political orientation. Demonstrating discriminant validity, scores were unrelated to measures of personal acquaintance and impression management. The latter point is an important one, as it suggests that PSM scores were not an artifact of social desirability bias. Finally, Study 5 was an in-person computer-based study that tested the PSM's predictive utility. Controlling for modern racism, PSM scores predicted participants' collective action intentions and behavior benefitting a minority outgroup. Non-Indigenous students who reported higher levels of political solidarity towards reconciliation with Indigenous Peoples in Canada were roughly three times more likely

to agree (than not agree) to create a message supporting a reconciliation campaign, and also donated more money to a reconciliation charity. Taken together, these findings have several implications for theory and measurement.

**Implications**

A major contribution of this research is that it advances a social-psychological, empirically-supported three-factor theory of political solidarity. Though there exists much scholarship on the topic in other disciplines, particularly philosophy, political solidarity is still an emerging concept within social psychology. At present, a search of "political solidarity" in the PsycInfo database returns a mere nine peer-reviewed social psychological publications, all of which were published in or after 2008. Other publications do seem to assess or theorize about political solidarity (or aspects of the understanding proposed here), but do not use the term, making it difficult to synthesize findings. Among the papers that do define political solidarity or provide related measures of it, definitions vary and measures tend to be somewhat narrow in scope, such as identification with the outgroup (Glasford & Calcagno, 2012) or a majority group's engagement in collective action benefitting a minority outgroup (Chayinska et al., 2017). But given the current research, it is clear that political solidarity involves more than this: Political solidarity consists of three factors that are related yet unique. Thus, conceptualizing political solidarity as consisting of Allyship, Cause Connection, and Social Change Commitment advances the theory of political solidarity by providing a richer, more nuanced understanding of this construct.

The scale itself has several implications for the study of not only political solidarity, but also intergroup relations and social change. An obvious implication is that this validated measure is the first to directly map the proposed three-factor theory of political solidarity. Also,

the measure can be easily adapted to assess various minority outgroup issues: I crafted the items so that they could apply to a range of groups and causes, I developed and validated the measure across six different issues, and I demonstrated that the factor structure is similar across these issues. Thus, researchers may use the PSM to draw cross-study and cross-group comparisons of political solidarity. Researchers may also use the scale in longitudinal research to track changes in political solidarity over time or in response to world events, as well as advocacy campaigns or other intervention efforts.

It is my hope that in putting forth a three-factor conceptualization of political solidarity, creating and validating a corresponding measure, and demonstrating the measure's attitudinal, dispositional, and behavioral correlates, this research will promote a more unified, cohesive, and comprehensive understanding of political solidarity, and consequently, facilitate a rich growth of this important literature.

**Limitations and Future Directions**

The current research is not without limitations, many of which point to directions for future research. Below I speak to these matters in the contexts of further psychometric validation, increasing and harnessing political solidarity, and the perspective of the recipients of political solidarity. First, though, I consider the limitations and future directions as they pertain to the studied participants and outgroup "causes."

**Sampled participants and focal social issues.** All of the social issues focused on in this dissertation—income equality for women, further admittance of Syrian refugees, recognition of transgender rights, Black Lives Matter, an inquiry into missing and murdered Indigenous women and girls, and reconciliation with Indigenous Peoples in Canada—in Canada fall under the umbrella of social justice or typically liberal concerns. Further, all participants were university

students attending universities that strive to address many of these social justice or liberal concerns. For instance, both universities' strategic plans outline their commitments to reconciliation with Indigenous Peoples in Canada (University of Manitoba, 2015; University of Winnipeg, n.d.). A potential criticism of the research, then, is that although I validated the measure across a variety of issues and samples, all issues and samples were relatively liberal; thus, it is unknown whether the results would generalize to more conservative issues and/or among conservative samples. Presumably, however, if I would have asked the same liberal students to indicate their political solidarity towards relatively conservative issues, the mean scores would have likely been lower (and subsequently less skewed), but the factor structure should be the same as observed in the current research; the same factor structure should also emerge if assessing conservative students' political solidarity towards conservative issues. Future research should test these possibilities.

Relatedly, one might also question the generalizability of the results when reflecting on the relatively young, educated, liberal, university student samples—and rightly so: A measure is only considered valid for the context in which it was validated (Furr, 2011). Recall, though, that I purposefully chose to sample students as I expect that they will be the primary participants used in future research. At the same time, I recognize that there are other groups researchers may wish to study, such as community members. I remind those researchers that, while uncommon in social psychology, it is good practice to test the reliability and validity of each measure before conducting analyses—even those which have been previously validated (Furr, 2011).

Finally, the PSM is designed to assess political solidarity towards disadvantaged outgroups and issues they face; however, there are at least two other intergroup relations that solidarity researchers may wish to study. First, Calcagno (2017) recently advanced an

understanding of political solidarity in the minority-majority context, that is, when a minority group member feels solidarity with a majority group. Future research should test whether the PSM can be successfully adapted for such situations or else create one that does so. The same should be done for explorations of human solidarity with nature for environmental issues. To this point, I have only discussed solidarity among human groups. Yet one can also stand in solidarity with nature, or certain aspects of it. As the Dalai Lama recently said, "true happiness comes from a sense of brotherhood and sisterhood. We need to cultivate a sense of universal responsibility for one another and the planet we share" (DalaiLama, 2018). His words reflect a solidarity that is shared by Indigenous spiritualties worldwide (Kairos, 2017; Soole, 2018; United Nations, 2016), Christian and Catholic notions of stewardship (Catholic Social Teaching, n.d.-b), and other sustainability movements (e.g., voluntary simplicity; Elgin, 2006). Solidarity with nature is at times apolitical, a feeling that could be assessed with existing unidimensional measures (e.g., Amiot & Bastian, 2018). Yet solidarity with nature can also be quite political, as is often the case with pipeline development, water protection, and fossil fuel divestment. The PSM could be a useful measurement tool in these situations—with some adaptations. For example, if the target sample does not view the assessed aspect of nature as animate (e.g., water), then perhaps instances of "their" in the scale should be replaced with "it". As with any scale adaptation, it is imperative to psychometrically validate the impact of such changes to ensure the scale is still reliable and valid.

**Further psychometric validation.** Clark and Watson (1955) liken scale construction to a graduation ceremony, which "is properly called commencement to emphasize that it signals a beginning as well as an end" (p. 325). Similarly, the end of this dissertation marks the beginning of the PSM's validation. In particular, there are many opportunities to address the limitations of

the current work while further validating this scale, such as showing that Allyship and Cause Connection are distinct factors. Indeed, a potential criticism of the current research pertains to their high correlation in Study 2 ($r$ = .87): Might this relationship suggest a two-factor solution is more appropriate than a three-factor solution? The current data suggest likely not. Recall that the exploratory factor analysis suggested (Study 1) that a three-factor model was appropriate for the data; in fact, none of the factor retention criteria suggested a two-factor model. Further support comes from Study 2, which not only confirmed the adequacy of three-factor model, but demonstrated it better fit the data than did a two-factor solution where Allyship and Cause Connection constituted one factor. Though certainly high, this factor correlation does not greatly exceed conventional cutoffs for multicollinearity (.85; Kline, 2005). Perhaps most importantly, though, one could imagine situations wherein these factors would be less correlated. For example, a person could in general feel strongly that they are allies of an outgroup, but not be committed to the particular cause. The reverse is also conceivable: A person could commit to a particular cause without feeling allyship with the group. Put differently, the factors of allyship and cause connection are certainly related, yet are conceptually distinct. The range of factor correlations across issues in Study 2 support this idea (see Appendix P). Future research could further evidence the two factors' distinctness in many ways, such as strategically choosing issues where they expect the factors' association to be lower, or by designing a manipulation to (most) increase scores on one subscale.

The PSM's retest stabilities represent another limitation that future research can address while further validating the measure. The PSM's three-week retest correlation was .62, which was statistically similar to its three-to-six-month retest correlation ($r$ = .60). Although these are large effect sizes (Cohen, 1988), by some standards they may represent a low retest value. What

are the reasons for the retest correlation magnitudes? One possibility is that for some people, I assessed attitudes that were not fully formed at Time 1: Perhaps completing the PSM initially prompted these participants to later think through their attitudes and subsequently respond slightly differently at Time 2. If so, the retest reliability among people who know a lot about the issue—regardless of their stance—should be higher than the retest reliability of people who do not know about the issue. To test this theory, one could sample people who are knowledgeable about one cause but not about another cause. Then, participants would complete the PSM for each issue at two time points. The expected results are that the retest correlations would be higher for people who are highly knowledgeable about the issue, compared to people who are less knowledgeable. If one strategically sampled highly knowledgeable participants who were also supporters of the cause, then this experiment would serve a dual purpose of establishing the PSM's known-groups validity.

**Shifting and harnessing political solidarity.** Although the PSM's retest coefficients may be on one hand a limitation, they are also encouraging in that they lend further support to my argument that political solidarity is somewhat stable yet also malleable; future research should therefore test strategies and interventions to shift political solidarity to engender positive social change. To inform such interventions, future work should investigate the antecedents of political solidarity. Below I discuss three potential antecedents of and ways to shift political solidarity (positive intergroup attitudes, inclusive victimhood construals, and community connection), followed by a discussion of potential strategies to harness high political solidarity.

***Shifting political solidarity: Antecedents and strategies.*** In the current research, feelings of outgroup warmth strongly correlated with political solidarity; thus, positive intergroup attitudes might precede political solidarity. If so, social psychological strategies known to

improve outgroup warmth specifically, as well as intergroup attitudes more generally, may also increase political solidarity. In particular are intergroup contact strategies, such as cross-group friendships (Davies, Tropp, Aron, Pettigrew, & Wright, 2011) and positive contact (Pettigrew & Tropp, 2006). If taking the intergroup contact route, it is important to consider the nature of this contact, particularly when it comes to majority-minority relations. Positive contact with a minority outgroup can certainly increase majority group members' intentions to take collective action that benefit the minority outgroup (Dixon, Levine, Reicher, & Durrheim, 2012; Reimer et al., 2017; Sevlanathan, Techakesari, Tropp, & Barlow, 2017), and is one of the most effective means of increasing advantaged racial groups' psychological investment in racial minority outgroup issues (Tropp & Barlow, 2018); however, such positive intergroup contact can simultaneously decrease the target minority group's collective action intentions as it makes the status quo seem rosier (Hayward, Tropp, Hornsey, & Barlow, 2018; Taush, Saguy, & Bryson, 2015). Of course, positive contact with advantaged group members will not necessarily hamper the collective action of minority groups, such as when a majority group member expresses support or that the disadvantage is illegitimate (Becker, Wright, Lubensky, & Zhou, 2013; Droogendyk, Louis, & Wright, 2016). Perhaps structured intergroup contact situations wherein the majority group member brainstorms then communicates reasons why they believe the focal inequity is illegitimate might both improve the majority group members' positive attitudes towards and consequently political solidarity with the outgroup, while still maintaining (or perhaps even increasing) the minority group's collective action intentions.

Inclusive victimhood construals (Vollhardt, 2012a, b, 2013) might be another antecedent of political solidarity. In some cases, when a person views their ingroup's suffering as similar to an outgroup's suffering, they may be supportive of that group and their cause (Vollhardt, 2015;

Vollhardt & Bilali, 2015; Vollhardt et al., 2016). Though these outcomes are similar to the political solidarity defined here, the hypothesized links have not been tested in the context of political solidarity specifically—with one exception. Forthcoming work by Starzyk and colleagues (2018; Study 3) provides preliminary evidence that inclusive victimhood construals can indeed promote political solidarity; however, more research is needed to replicate the effects and determine boundary conditions, one of which may be (perceived or actual) competition with the outgroup. Related research could also examine the impacts of experimentally inducing collective victimhood on political solidarity. Given that minority groups have typically faced more historical victimization and ongoing victimization than have majority groups, minority groups would likely be the focus of such research programs.

Certainly, gaining the political solidarity of minority groups is important for social change. History is riddled with examples of powerful interminority coalitions, such as the emergence of migrant and Indigenous partnerships in Canada (e.g., Amadhay & Lawrence, 2010). But remember that, due to their inherently privileged status, majority group members can be particularly impactful in inciting social change (Mallett et al., 2008)—even if they and the outgroup do not share a lived experience of the focal disadvantage. How, then, might their political solidarity be increased without creating an oft-problematic superordinate identity? One potential strategy is to evoke a psychological sense of community connection. My colleagues and I (Neufeld et al., 2018) have found that doing so can increase support for addressing injustices facing various minority outgroup communities—among not only majority group members but minority group members as well. Yet we have not tested whether evoking community connection increases political solidarity, which may mediate this community connection-support link, thus presenting another avenue for future research.

***Harnessing political solidarity.*** In some circumstances, though, increasing political solidarity might not be necessary to achieve the desired social change: Sometimes, political solidarity might already be high, yet the desired behavior, such as collective action benefitting the outgroup, is not occurring. In other words, that high political solidarity must be harnessed for collective action; the PSM may still prove useful in these contexts.

For instance, among highly solidary people, one potential barrier to collective action is that they wrongly believe their fellow group members are low in solidarity, that is, they incorrectly perceive the norms. This incorrect assessment of norms can inhibit people from acting in a manner consistent with their attitudes; by extension, correcting their belief can validate their attitude and license them to act accordingly (Azjen, 1985; Prentice, 2012; Schroeder & Prentice, 1998; Tankard & Paluck, 2016; see also Kay et al., 2009). Researchers interested in motivating collective action could thus administer two versions of the PSM: one assessing participants' personal attitudes, and one assessing participants' impressions of others' attitudes. By comparing the two, researchers could determine whether there is a disconnect between actual and perceived norms, such as whether people incorrectly assume that others are less supportive than they truly are. If so, informing people of the actual norm may be one way to increase their collective action behavior—particular among those who are highly solidary and if the action seems likely to induce change (Azjen, 1985; Prentice, 2012). This hypothetical experiment represents one of the many ways that the PSM could help promote positive social change.

Another normative barrier to collective action among highly solidary people may be the (mis)perceived norm of self-interest: the idea that people are and should be driven by self-interest (Miller, 1999; Miller & Ratner, 1996; Ratner & Miller, 2001). Even if a person has very

high political solidarity for an outgroup issue, they may not act if they feel that they lack a clear "stake" in the outgroup issue: Doing so would violate the norm of self-interest, which people anticipate will be uncomfortable and invite judgement from onlookers (Ratner & Miller, 2001). To overcome the barrier of the self-interest norm and incite social action, then, outgroup members must come to feel they have a "stake" or psychological investment in the cause. Framing the call to action in an inclusive way (Ratner & Miller, 2001) is one solution backed by the psychological research, which is also often used in practice: The HeForShe movement is one example. Other empirical research suggests that for members of racial majority groups, intergroup contact with minority group members can increase their psychological standing in matters of racial inequality (Tropp & Barlow, 2018). In future work, researchers could test whether these strategies will indeed overcome the barriers posed by the norm of self-interest, granting those high in political solidarity permission to engage in collective action.

**Perspectives of the recipients of political solidarity.** To complement the current research's focus on those who offer political solidarity, future research should explore the perspective of the intended *recipients* of political solidarity—the disadvantaged minority outgroup members. Absent from the current research are the experiences of the very groups it concerns. This disconnect, which is arguably more common than not in social psychology and social sciences generally, can be problematic (Calcagno, 2017; Esses, Hamilton, & Gaucher, 2018). Consider the field of positive intergroup contact. Towards the goal of reducing prejudice towards minorities, decades of research studied the effects of intergroup contact on majority group members' attitudes about minorities. Overwhelmingly, that research suggested that positive intergroup contact could reduce majority group members' prejudice towards minority groups (see Pettigrew & Tropp, 2006). Positive intergroup contact, it seemed, was key to

harmonious relations and a better future for disadvantaged minority groups. Once researchers began to study the effects of such strategies on minority group members, however, it was clear that positive intergroup contact was not a panacea to advancing the status of minority groups after all: As mentioned earlier, positive contact with majority group members often *inhibits* minority group members' collective action, thereby maintaining their disadvantage (Becker et al., 2013; Dixon et al., 2012; Wright & Baray, 2012). This is but one reminder of how even the best of intentions may be misguided and underscores the importance of incorporating all relevant voices—majority and minority—in research concerning these groups.

There are many ways to incorporate the minority experience into future PSM research. First, research could determine whether minority group members identify and are accepting of allies who score high on the PSM for their group's cause. Doing so would further validate the measure, ensuring that the scale (and particularly the allyship subscale) does not simply identify people who feel they are solidary with an outgroup's cause, but also identifies people who the relevant outgroup agrees are solidary. Such questions are also important from a non-psychometric, social justice standpoint. In many circumstances, it is unacceptable for an individual to self-identity as an outgroup's ally; rather, the outgroup bestows that title upon the individual (e.g., Dennis, McRae, & Simpson, 2018; McKenzie, 2014). Additionally, any future research that aims to increase political solidarity would do well to use a cross-race partner paradigm. This design could simultaneously determine how to heighten political solidarity and whether and how such methods affect members of the minority outgroup (e.g., their feelings of power; see Vorauer, Quesnel, & St. Germain, 2016).

One could also address the above questions using a mixture model involving latent class analysis. This person-centered approach could determine whether there are qualitatively

different classes or profiles of motivations for solidarity. For instance, perhaps some peoples' solidarity stems more from benevolence and compassion (the "benevolent" class), whereas others' stems from a deep understanding of the injustice and their own complicity in it (the "woke" class). Another group might be driven somewhat by benevolence and understanding of injustice, but especially driven by ego (the "hero complex" class). Once the profiles are elucidated, additional analyses could discern whether the profiles uniquely predict different types of advocacy behavior and the extent to which solidarity recipients deem them allies. For instance, perhaps "benevolent" class membership predicts dependency-oriented advocacy behaviors and moderate solidarity-recipient perceptions of allyship. "Woke" class membership might predict more empowering advocacy behaviors and high solidarity-recipient perceptions of allyship. Membership in the "hero complex" class might predict both types of advocacy behaviors but predict low solidarity-recipient perceptions of allyship. Such a study would complement and extend the findings of Thomas and McGarty (2017), who recently profiled supporters of global anti-poverty efforts and found unique types of support: "Benevolent" class members gave dependency-oriented help (e.g., donations of supplies) whereas "activist" class members gave action-oriented help (e.g., protest attendance). Thomas and McGarty (2017), however, did not examine political solidarity specifically, nor did they examine reactions of the recipients of anti-poverty efforts. The proposed research could also empirically test the some of Droogendyk, Wright, Lubensky, and Louis's (2016) suggestions as to the characteristics of effective allyship from majority group members.

**Conclusion**

When people walk alongside disadvantaged minority outgroups in their struggle to gain equitable treatment, they can together create substantial social change. A comprehensive,

empirically validated measure of political solidarity may help elucidate political solidarity—both as a theoretical construct as well as where it exists in the real world. By better understanding and identifying political solidarity, we may also be better equipped to increase political solidarity for matters of social justice and in turn, engender a more just society.

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## Appendix A: Study 1—Initial Political Solidarity Measure Instructions, Item Pool, and Issue Descriptions

Note: Participants did not read any of the bolded text below. Text within brackets were replaced with the appropriate information, depending on the randomly assigned outgroup issue.

### Instructions and Item Pool

In this section, you will answer a series of questions about your feelings toward another group and a current issue related to the group, that is, their "cause." It is ok if you do not agree with the group or the cause.

The group you will reflect on is **[outgroup]**.
The cause you will reflect on is **[issue].**

[**Outgroup issue description; see "Issue Descriptions" below**]

Using the scale below, please answer the following questions. Remember to answer the questions while thinking about **[outgroup]** and their cause, [**issue**].

| Strongly disagree | Disagree | Slightly Disagree | Neutral | Slightly Agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

I feel a sense of "brotherhood" or "sisterhood" with _____.
_____can count on me to be their ally.
_____ and I are "all in this together".
I stand in solidarity with _____.
I feel a sense of solidarity with _____ . (Adapted from Leach et al., 2008)
It's important for me to stick together with _____.
I stand united with _____.
In some ways, I have a sense of responsibility toward _____.
I would say I am loyal to _____.
I feel committed to _____. (Adapted from Doosje et al., 1995)
In some ways, I view _____'s cause as my cause too.
_____'s cause is important to me.
I identify with _____'s cause.
I think _____'s cause is worthy.
I share _____'s goal.
I feel partly responsible to ensure that _____'s interests are met.
Working together to achieve _____'s goal is important to me.
I have a role to play in _____'s cause.
I am committed to supporting _____'s cause.
I feel connected to _____'s cause.
Policies negatively affecting _____ should be changed.
All citizens should be better informed about how _____are disadvantaged by policies.
More people should know about how _____ are negatively affected by this issue.

It's important to challenge the power structures that disadvantage _____.
Power structures that disadvantage _____are unfair.
Policies and laws that are unfair to _____must be changed.
The way that the authorities treat _____is unjust.
We need policies that will grant equal rights to _____.
I believe social systems should change so they guarantee equality for _____.
Fighting for social justice for _____means fighting for the social good.

**Issue Descriptions**

**Indigenous people: Inquiry into missing and murdered Indigenous women**
Indigenous women and girls in Canada are disproportionately affected by all forms of violence. Even though they only make up 4% of Canada's female population, 16% of all women murdered in Canada between 1980 and 2012 were Indigenous.

Many Indigenous people for more action on the issue of missing and murdered Indigenous women.

**Indigenous people: Reconciliation**
For over 100 years, Indigenous children were removed from their families and sent to institutions called Residential Schools. Students often experienced trauma, which has been passed down from generation to generation and affected the relationship between Indigenous peoples and other Canadians.

Many Indigenous Peoples are calling for reconciliation to revitalize the relationship between Indigenous people and other Canadians.

**Syrian refugees: Immigration to Canada**

The ongoing conflict in Syria has triggered the worst humanitarian crisis in the world today. Half the country's pre-war population—more than 11 million people— have been killed or forced to flee their homes.

Many of these Syrian refugees wish to immigrate to Canada.

**Transgendered people: Transgender rights**
Transgendered people in Canada are disproportionately affected by violence and discrimination. For example, whereas 20% of straight children feel safe at school, 95% of transgendered students feel unsafe at school.

Many transgendered people are calling for federal laws to provide transgendered individuals with the same legal protections as other vulnerable groups in Canada.

**Black people: Black Lives Matter Canada**

Black people in Canada are disproportionately affected by violence and discrimination. For example, even though they only represent 2.5% of the population, Black people were victims of 42% of reported hate crimes in Canada.

Many Black Canadians have joined Black Lives Matter Canada, a movement that aims to end violence and discrimination against Black Canadians.

**Women: Income equality**

Women in Canada earn less money than men. In fact, Canadian women earn 20% less than men even when they do the same job.

Many women are calling for policy changes to guarantee income equality for women.

## Appendix B: Study 1—Consent Form

**INFORMATION AND CONSENT FORM**


2016-2017 Prescreening

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Dr. Katherine Starzyk, Assistant Professor in the Department of Psychology at the University of Manitoba, is conducting this pre-screening to learn about people's attitudes and beliefs about groups and social issues. Participants answer questions about groups and social issues, their attitudes and beliefs (e.g., political orientation), and demographics (e.g., age, sex). Students who participate in this study may be invited to participate in follow-up studies, which they may then agree or disagree to participate in. We expect most participants will complete the study in one hour or less.

Please read this consent form carefully, but understand that it is only part of the process of informed consent. If you have any questions about the study now or at any point during the study please feel free to contact Dr. Starzyk or Aleah Fontaine.

All of the information we collect is confidential, meaning that only members of the Social Justice Laboratory will normally have access to it. We will store the data on a password-protected computer affiliated with the Social Justice Laboratory, likely indefinitely. Aside from our laboratory, the University of Manitoba Research Ethics Board(s) and a representative(s) of the University of Manitoba Research Quality Management / Assurance office may also require access to your research records for safety and quality assurance purposes.

We may present the findings of this study at academic conferences or submit a manuscript or other written work based on this study for publication. We may also draft publicly accessible summaries of our findings or report on our research to media organizations. In doing so, we will only report our summary findings. We will never report the answers of one person.

There are two potential benefits to participating. First, if you consent to participate, you will receive one credit toward your PSYC 1200 research participation grade. You will still receive this credit if they withdraw partway during the study. Second, you will learn first-hand about research in Social and Personality Psychology at the University of Manitoba.

The potential risks associated with participating in this study are no greater than those which people likely experience in everyday life as a consequence of learning about social issues or using online platforms provided by companies based in the United States. By learning about a social issue, your view of the world may change—for the positive or negative. By answering questions in our survey, there is also some risk that the United States government could access your answers because our survey is hosted by an American-based company (i.e., Qualtrics) and all such companies are subject to American laws such as the Patriot Act. People frequently use services of such companies—such as Facebook, Google, and Hotmail.

This Psychology/Sociology Research Ethics Board has approved this research. For technical assistance, please contact Aleah Fontaine. If you have any concerns or complaints, you may contact Dr. Starzyk or the Human Ethics Secretariat (e-mail: humanethics@umanitoba.ca, +1 204-474-7122).

Now it is time for you to decide whether you want to participate in this study. By clicking "I agree" below you will indicate that you have understood to your satisfaction the information regarding participation in this research project and agree to participate. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. You should only click "I agree" if you agree to participate with full knowledge of the study presented to you in this information and consent form and of your own free will.

Please select "I agree" if you wish to participate.
If you would like to withdraw and would like to exit the survey, please select "I disagree".

I agree
I disagree

**Appendix C: Distribution of Participants Across PSM Issues**

| Study | Gendered Income equality | Black Lives Matter | Inquiry into Missing and Murdered Indigenous Women | Reconciliation with Indigenous Peoples in Canada | Transgender Rights | Admitting Syrian Refugees to Canada |
|---|---|---|---|---|---|---|
| 1 | 252 | 274 | 262 | 261 | 269 | 276 |
| 2 | 42 | 45 | 44 | 46 | 43 | 40 |
| 3 | 67 | 47 | 51 | 51 | 43 | -- |
| 4 | 20 | 33 | -- | 27 | 28 | 18 |
| 5 | -- | -- | -- | 219 | -- | -- |

## Appendix D: Study 1—Covariance Matrixes (Legend of Items Follows)

| | PSMA1 | PSMA2 | PSMA3 | PSMA4 | PSMA5 | PSMA6 | PSMA7 | PSMA8 | PSMA9 | PSMA10 |
|---|---|---|---|---|---|---|---|---|---|---|
| PSMA1 | 2.40 | 1.26 | 1.47 | 1.36 | 1.52 | 1.53 | 1.44 | 1.52 | 1.47 | 1.61 |
| PSMA2 | 1.26 | 2.02 | 1.45 | 1.40 | 1.30 | 1.49 | 1.52 | 1.19 | 1.45 | 1.40 |
| PSMA3 | 1.47 | 1.45 | 2.24 | 1.50 | 1.48 | 1.56 | 1.60 | 1.38 | 1.50 | 1.53 |
| PSMA4 | 1.36 | 1.40 | 1.50 | 2.01 | 1.59 | 1.49 | 1.57 | 1.25 | 1.38 | 1.45 |
| PSMA5 | 1.52 | 1.30 | 1.48 | 1.59 | 2.08 | 1.48 | 1.50 | 1.35 | 1.42 | 1.52 |
| PSMA6 | 1.53 | 1.49 | 1.56 | 1.49 | 1.48 | 2.21 | 1.60 | 1.44 | 1.57 | 1.68 |
| PSMA7 | 1.44 | 1.52 | 1.60 | 1.57 | 1.50 | 1.60 | 2.13 | 1.27 | 1.53 | 1.53 |
| PSMA8 | 1.52 | 1.19 | 1.38 | 1.25 | 1.35 | 1.44 | 1.27 | 2.38 | 1.36 | 1.61 |
| PSMA9 | 1.47 | 1.45 | 1.50 | 1.38 | 1.42 | 1.57 | 1.53 | 1.36 | 2.22 | 1.61 |
| PSMA10 | 1.61 | 1.40 | 1.53 | 1.45 | 1.52 | 1.68 | 1.53 | 1.61 | 1.61 | 2.28 |
| PSMB1 | 1.32 | 1.05 | 1.27 | 1.08 | 1.21 | 1.26 | 1.16 | 1.29 | 1.12 | 1.28 |
| PSMB2 | 1.17 | 1.26 | 1.24 | 1.24 | 1.22 | 1.34 | 1.31 | 1.19 | 1.26 | 1.31 |
| PSMB3 | 1.23 | 1.02 | 1.19 | 1.10 | 1.15 | 1.15 | 1.13 | 1.16 | 1.01 | 1.20 |
| PSMB4 | 0.81 | 1.14 | 1.03 | 1.09 | 0.96 | 1.11 | 1.17 | 0.87 | 1.01 | 1.01 |
| PSMB5 | 1.28 | 1.32 | 1.38 | 1.27 | 1.25 | 1.40 | 1.33 | 1.28 | 1.30 | 1.42 |
| PSMB6 | 1.30 | 1.12 | 1.25 | 1.15 | 1.17 | 1.26 | 1.14 | 1.46 | 1.19 | 1.34 |
| PSMB7 | 1.34 | 1.30 | 1.36 | 1.33 | 1.30 | 1.45 | 1.38 | 1.33 | 1.33 | 1.43 |
| PSMB8 | 1.24 | 1.15 | 1.24 | 1.14 | 1.18 | 1.26 | 1.17 | 1.38 | 1.17 | 1.31 |
| PSMB9 | 1.24 | 1.29 | 1.35 | 1.30 | 1.26 | 1.34 | 1.36 | 1.22 | 1.30 | 1.35 |
| PSMB10 | 1.36 | 1.15 | 1.31 | 1.22 | 1.27 | 1.35 | 1.29 | 1.30 | 1.22 | 1.39 |
| PSMC1 | 0.79 | 1.01 | 1.00 | 1.00 | 0.92 | 1.03 | 1.05 | 0.78 | 0.94 | 0.91 |
| PSMC2 | 0.81 | 0.98 | 0.95 | 1.00 | 0.92 | 1.03 | 1.05 | 0.84 | 0.89 | 0.92 |
| PSMC3 | 0.71 | 0.92 | 0.91 | 0.97 | 0.86 | 0.96 | 0.97 | 0.74 | 0.82 | 0.84 |
| PSMC4 | 0.85 | 1.03 | 1.02 | 1.07 | 0.98 | 1.08 | 1.07 | 0.88 | 0.97 | 1.01 |
| PSMC5 | 0.78 | 0.99 | 1.00 | 1.02 | 0.91 | 1.05 | 1.04 | 0.76 | 0.96 | 0.94 |
| PSMC6 | 0.77 | 0.98 | 0.95 | 0.98 | 0.92 | 0.96 | 1.02 | 0.72 | 0.91 | 0.88 |
| PSMC7 | 0.71 | 0.82 | 0.85 | 0.93 | 0.80 | 0.91 | 0.90 | 0.71 | 0.79 | 0.81 |
| PSMC8 | 0.80 | 1.00 | 0.98 | 0.99 | 0.90 | 0.97 | 1.05 | 0.73 | 0.92 | 0.89 |
| PSMC9 | 0.82 | 1.05 | 1.04 | 1.05 | 0.97 | 1.06 | 1.07 | 0.82 | 0.96 | 0.94 |
| PSMC10 | 0.88 | 1.07 | 1.07 | 1.11 | 1.02 | 1.09 | 1.14 | 0.92 | 0.99 | 1.00 |

| | PSMB1 | PSMB2 | PSMB3 | PSMB4 | PSMB5 | PSMB6 | PSMB7 | PSMB8 | PSMB9 | PSMB10 |
|---|---|---|---|---|---|---|---|---|---|---|
| PSMA1 | 1.32 | 1.17 | 1.23 | 0.81 | 1.28 | 1.30 | 1.34 | 1.24 | 1.24 | 1.36 |
| PSMA2 | 1.05 | 1.26 | 1.02 | 1.14 | 1.32 | 1.12 | 1.30 | 1.15 | 1.29 | 1.15 |
| PSMA3 | 1.27 | 1.24 | 1.19 | 1.03 | 1.38 | 1.25 | 1.36 | 1.24 | 1.35 | 1.31 |
| PSMA4 | 1.08 | 1.24 | 1.10 | 1.09 | 1.27 | 1.15 | 1.33 | 1.14 | 1.30 | 1.22 |
| PSMA5 | 1.21 | 1.22 | 1.15 | 0.96 | 1.25 | 1.17 | 1.30 | 1.18 | 1.26 | 1.27 |
| PSMA6 | 1.26 | 1.34 | 1.15 | 1.11 | 1.40 | 1.26 | 1.45 | 1.26 | 1.34 | 1.35 |
| PSMA7 | 1.16 | 1.31 | 1.13 | 1.17 | 1.33 | 1.14 | 1.38 | 1.17 | 1.36 | 1.29 |
| PSMA8 | 1.29 | 1.19 | 1.16 | 0.87 | 1.28 | 1.46 | 1.33 | 1.38 | 1.22 | 1.30 |
| PSMA9 | 1.12 | 1.26 | 1.01 | 1.01 | 1.30 | 1.19 | 1.33 | 1.17 | 1.30 | 1.22 |
| PSMA10 | 1.28 | 1.31 | 1.20 | 1.01 | 1.42 | 1.34 | 1.43 | 1.31 | 1.35 | 1.39 |
| PSMB1 | 2.23 | 1.35 | 1.46 | 1.00 | 1.53 | 1.46 | 1.44 | 1.49 | 1.33 | 1.56 |
| PSMB2 | 1.35 | 2.01 | 1.28 | 1.38 | 1.51 | 1.35 | 1.63 | 1.41 | 1.52 | 1.44 |
| PSMB3 | 1.46 | 1.28 | 2.14 | 1.00 | 1.40 | 1.31 | 1.36 | 1.38 | 1.28 | 1.51 |
| PSMB4 | 1.00 | 1.38 | 1.00 | 1.80 | 1.25 | 0.98 | 1.29 | 1.07 | 1.25 | 1.07 |
| PSMB5 | 1.53 | 1.51 | 1.40 | 1.25 | 2.29 | 1.51 | 1.63 | 1.48 | 1.48 | 1.52 |
| PSMB6 | 1.46 | 1.35 | 1.31 | 0.98 | 1.51 | 2.18 | 1.52 | 1.49 | 1.39 | 1.45 |
| PSMB7 | 1.44 | 1.63 | 1.36 | 1.29 | 1.63 | 1.52 | 2.09 | 1.48 | 1.58 | 1.52 |
| PSMB8 | 1.49 | 1.41 | 1.38 | 1.07 | 1.48 | 1.49 | 1.48 | 2.13 | 1.35 | 1.49 |
| PSMB9 | 1.33 | 1.52 | 1.28 | 1.25 | 1.48 | 1.39 | 1.58 | 1.35 | 2.03 | 1.46 |
| PSMB10 | 1.56 | 1.44 | 1.51 | 1.07 | 1.52 | 1.45 | 1.52 | 1.49 | 1.46 | 2.13 |
| PSMC1 | 0.80 | 1.05 | 0.78 | 1.11 | 0.99 | 0.85 | 1.06 | 0.89 | 1.01 | 0.89 |
| PSMC2 | 0.90 | 1.14 | 0.87 | 1.15 | 1.03 | 0.95 | 1.14 | 0.97 | 1.09 | 0.97 |
| PSMC3 | 0.83 | 1.10 | 0.81 | 1.15 | 0.97 | 0.90 | 1.08 | 0.92 | 1.03 | 0.91 |
| PSMC4 | 0.92 | 1.15 | 0.90 | 1.16 | 1.08 | 0.94 | 1.16 | 1.02 | 1.10 | 0.97 |
| PSMC5 | 0.86 | 1.10 | 0.81 | 1.14 | 1.04 | 0.90 | 1.10 | 0.94 | 1.04 | 0.93 |
| PSMC6 | 0.80 | 1.01 | 0.76 | 1.06 | 0.94 | 0.79 | 1.01 | 0.85 | 0.97 | 0.82 |
| PSMC7 | 0.80 | 0.96 | 0.79 | 1.01 | 0.88 | 0.84 | 0.98 | 0.83 | 0.96 | 0.89 |
| PSMC8 | 0.80 | 1.06 | 0.74 | 1.11 | 0.97 | 0.83 | 1.05 | 0.86 | 1.01 | 0.85 |
| PSMC9 | 0.90 | 1.11 | 0.86 | 1.15 | 1.04 | 0.92 | 1.13 | 0.95 | 1.10 | 0.95 |
| PSMC10 | 0.92 | 1.20 | 0.90 | 1.24 | 1.12 | 0.98 | 1.20 | 1.03 | 1.15 | 0.97 |

| | PSMC1 | PSMC2 | PSMC3 | PSMC4 | PSMC5 | PSMC6 | PSMC7 | PSMC8 | PSMC9 | PSMC10 |
|---|---|---|---|---|---|---|---|---|---|---|
| PSMA1 | 0.79 | 0.81 | 0.71 | 0.85 | 0.78 | 0.77 | 0.71 | 0.80 | 0.82 | 0.88 |
| PSMA2 | 1.01 | 0.98 | 0.92 | 1.03 | 0.99 | 0.98 | 0.82 | 1.00 | 1.05 | 1.07 |
| PSMA3 | 1.00 | 0.95 | 0.91 | 1.02 | 1.00 | 0.95 | 0.85 | 0.98 | 1.04 | 1.07 |
| PSMA4 | 1.00 | 1.00 | 0.97 | 1.07 | 1.02 | 0.98 | 0.93 | 0.99 | 1.05 | 1.11 |
| PSMA5 | 0.92 | 0.92 | 0.86 | 0.98 | 0.91 | 0.92 | 0.80 | 0.90 | 0.97 | 1.02 |
| PSMA6 | 1.03 | 1.03 | 0.96 | 1.08 | 1.05 | 0.96 | 0.91 | 0.97 | 1.06 | 1.09 |
| PSMA7 | 1.05 | 1.05 | 0.97 | 1.07 | 1.04 | 1.02 | 0.90 | 1.05 | 1.07 | 1.14 |
| PSMA8 | 0.78 | 0.84 | 0.74 | 0.88 | 0.76 | 0.72 | 0.71 | 0.73 | 0.82 | 0.92 |
| PSMA9 | 0.94 | 0.89 | 0.82 | 0.97 | 0.96 | 0.91 | 0.79 | 0.92 | 0.96 | 0.99 |
| PSMA10 | 0.91 | 0.92 | 0.84 | 1.01 | 0.94 | 0.88 | 0.81 | 0.89 | 0.94 | 1.00 |
| PSMB1 | 0.80 | 0.90 | 0.83 | 0.92 | 0.86 | 0.80 | 0.80 | 0.80 | 0.90 | 0.92 |
| PSMB2 | 1.05 | 1.14 | 1.10 | 1.15 | 1.10 | 1.01 | 0.96 | 1.06 | 1.11 | 1.20 |
| PSMB3 | 0.78 | 0.87 | 0.81 | 0.90 | 0.81 | 0.76 | 0.79 | 0.74 | 0.86 | 0.90 |
| PSMB4 | 1.11 | 1.15 | 1.15 | 1.16 | 1.14 | 1.06 | 1.01 | 1.11 | 1.15 | 1.24 |
| PSMB5 | 0.99 | 1.03 | 0.97 | 1.08 | 1.04 | 0.94 | 0.88 | 0.97 | 1.04 | 1.12 |
| PSMB6 | 0.85 | 0.95 | 0.90 | 0.94 | 0.90 | 0.79 | 0.84 | 0.83 | 0.92 | 0.98 |
| PSMB7 | 1.06 | 1.14 | 1.08 | 1.16 | 1.10 | 1.01 | 0.98 | 1.05 | 1.13 | 1.20 |
| PSMB8 | 0.89 | 0.97 | 0.92 | 1.02 | 0.94 | 0.85 | 0.83 | 0.86 | 0.95 | 1.03 |
| PSMB9 | 1.01 | 1.09 | 1.03 | 1.10 | 1.04 | 0.97 | 0.96 | 1.01 | 1.10 | 1.15 |
| PSMB10 | 0.89 | 0.97 | 0.91 | 0.97 | 0.93 | 0.82 | 0.89 | 0.85 | 0.95 | 0.97 |
| PSMC1 | 1.74 | 1.20 | 1.19 | 1.30 | 1.30 | 1.36 | 1.10 | 1.28 | 1.29 | 1.24 |
| PSMC2 | 1.20 | 1.73 | 1.40 | 1.25 | 1.24 | 1.19 | 1.18 | 1.19 | 1.26 | 1.29 |
| PSMC3 | 1.19 | 1.40 | 1.66 | 1.23 | 1.24 | 1.14 | 1.19 | 1.16 | 1.22 | 1.28 |
| PSMC4 | 1.30 | 1.25 | 1.23 | 1.78 | 1.35 | 1.27 | 1.20 | 1.25 | 1.29 | 1.34 |
| PSMC5 | 1.30 | 1.24 | 1.24 | 1.35 | 1.80 | 1.32 | 1.18 | 1.29 | 1.34 | 1.31 |
| PSMC6 | 1.36 | 1.19 | 1.14 | 1.27 | 1.32 | 1.75 | 1.08 | 1.30 | 1.30 | 1.22 |
| PSMC7 | 1.10 | 1.18 | 1.19 | 1.20 | 1.18 | 1.08 | 2.31 | 1.10 | 1.27 | 1.20 |
| PSMC8 | 1.28 | 1.19 | 1.16 | 1.25 | 1.29 | 1.30 | 1.10 | 1.67 | 1.36 | 1.25 |
| PSMC9 | 1.29 | 1.26 | 1.22 | 1.29 | 1.34 | 1.30 | 1.27 | 1.36 | 1.86 | 1.30 |
| PSMC10 | 1.24 | 1.29 | 1.28 | 1.34 | 1.31 | 1.22 | 1.20 | 1.25 | 1.30 | 1.79 |

**Legend of Items Reported in Above Covariance Matrixes**

PSMA1: I feel a sense of brotherhood or sisterhood with X
PSMA2: X can count on me to be their ally
PSMA3: X and I are “all in this together”
PSMA4: I stand in solidarity with X
PSMA5: I feel a sense of solidarity with X
PSMA6: Its important for me to stick together with X
PSMA7: I stand united with X
PSMA8: In some ways, I have a sense of responsibility towards X
PSMA9: I would say I am loyal to X
PSMA10: I feel committed to X
PSMB1: In some ways, I view Xs cause as my cause too.
PSMB2: Xs cause is important to me
PSMB3: I identify with Xs cause
PSMB4: I think Xs cause is worthy
PSMB5: I share Xs goal
PSMB6: I feel partly responsible to ensure that Xs interests are met
PSMB7: Working together to achieve Xs goal is important to me
PSMB8: I have a role to play in Xs cause
PSMB9: I am committed to supporting Xs cause
PSMB10: I feel connected to Xs cause
PSMC1: Policies negatively affecting X should be changed
PSMC2: All citizens should be better informed on how X are disadvantaged by policies
PSMC3: More people whould know about how X are negatively affected by this issue
PSMC4: Its important to challenge the power structures that disadvantage X
PSMC5: Power structures that disadvantage X are unfair
PSMC6: Policies and laws that are unfair to X must be changed
PSMC7: The way that the authorities treat X is unjust
PSMC8: We need policies that will grant equal rights to X
PSMC9: I believe social systems should change so they guarantee equality for X
PSMC10: Fighting for social justice for X means fighting for the common good

## Appendix E: Study 1—Factor Loadings for Configural Equivalence Tests

| Grouping Variable | Subgroup | Factor | Item | Standardized Factor Loading |
|---|---|---|---|---|
| PSM Issue | Gendered Income Equality | Allyship | PSMA1 | .81** |
| | | | PSMA5 | .84** |
| | | | PSMA7 | .81** |
| | | Cause Connection | PSMB1 | .80** |
| | | | PSMB8 | .83** |
| | | | PSMB10 | .86** |
| | | Social Change | PSMC1 | .81** |
| | | | PSMC3 | .89** |
| | | | PSMC4 | .87** |
| | Black Lives Matter | Allyship | PSMA1 | .69** |
| | | | PSMA5 | .78** |
| | | | PSMA7 | .77** |
| | | Cause Connection | PSMB1 | .76** |
| | | | PSMB8 | .72** |
| | | | PSMB10 | .85** |
| | | Social Change | PSMC1 | .75** |
| | | | PSMC3 | .75** |
| | | | PSMC4 | .88** |
| | Inquiry into Missing and Murdered Indigenous Women | Allyship | PSMA1 | .79** |
| | | | PSMA5 | .90** |
| | | | PSMA7 | .81** |
| | | Cause Connection | PSMB1 | .87** |
| | | | PSMB8 | .82** |
| | | | PSMB10 | .85** |
| | | Social Change | PSMC1 | .84** |
| | | | PSMC3 | .86** |
| | | | PSMC4 | .78** |
| | Reconciliation with Indigenous Peoples in Canada | Allyship | PSMA1 | .78** |
| | | | PSMA5 | .79** |
| | | | PSMA7 | .79** |
| | | Cause Connection | PSMB1 | .92** |
| | | | PSMB8 | .77** |
| | | | PSMB10 | .89** |
| | | Social Change | PSMC1 | .82** |
| | | | PSMC3 | .86** |
| | | | PSMC4 | .90** |
| | Transgender Rights | Allyship | PSMA1 | .78** |
| | | | PSMA5 | .89** |
| | | | PSMA7 | .89** |
| | | Cause Connection | PSMB1 | .80** |
| | | | PSMB8 | .89** |
| | | | PSMB10 | .90** |

| | | | |
|---|---|---|---|
| | Social Change | PSMC1 | .92** |
| | | PSMC3 | .91** |
| | | PSMC4 | .90** |
| Admitting Syrian Refugees into Canada | Allyship | PSMA1 | .77** |
| | | PSMA5 | .80** |
| | | PSMA7 | .83** |
| | Cause Connection | PSMB1 | .84** |
| | | PSMB8 | .81** |
| | | PSMB10 | .82** |
| | Social Change | PSMC1 | .84** |
| | | PSMC3 | .71** |
| | | PSMC4 | .82** |

*Note.* $^{**}p < .001$

| Grouping Variable | Subgroup | Factor | Item | Standardized Factor Loading |
|---|---|---|---|---|
| Gender | Women | Allyship | PSMA1 | .76** |
| | | | PSMA5 | .84** |
| | | | PSMA7 | .83** |
| | | Cause Connection | PSMB1 | .81** |
| | | | PSMB8 | .80** |
| | | | PSMB10 | .87** |
| | | Social Change | PSMC1 | .85** |
| | | | PSMC3 | .79** |
| | | | PSMC4 | .85** |
| | Men | Allyship | PSMA1 | .84** |
| | | | PSMA5 | .87** |
| | | | PSMA7 | .85** |
| | | Cause Connection | PSMB1 | .85** |
| | | | PSMB8 | .85** |
| | | | PSMB10 | .87** |
| | | Social Change | PSMC1 | .83** |
| | | | PSMC3 | .88** |
| | | | PSMC4 | .90** |

*Note.* $^{**}p < .001$

| Grouping Variable | Subgroup | Factor | Item | Standardized Factor Loading |
|---|---|---|---|---|
| Ethnicity | Majority | Allyship | PSMA1 | .78** |
| | | | PSMA5 | .86** |
| | | | PSMA7 | .85** |
| | | Cause Connection | PSMB1 | .82** |
| | | | PSMB8 | .83** |
| | | | PSMB10 | .87** |
| | | Social Change | PSMC1 | .86** |
| | | | PSMC3 | .85** |
| | | | PSMC4 | .87** |
| | Minority | Allyship | PSMA1 | .79** |
| | | | PSMA5 | .85** |
| | | | PSMA7 | .83** |
| | | Cause Connection | PSMB1 | .82** |
| | | | PSMB8 | .82** |
| | | | PSMB10 | .87** |
| | | Social Change | PSMC1 | .83** |
| | | | PSMC3 | .80** |
| | | | PSMC4 | .88** |

*Note.* $^{**}p < .001$

## Appendix F: Study 2—Experimenter Script and Instructions

1. **Recruitment**
   Sit at the table and wait for people to approach you; do not approach people.

   If someone approaches you and asks you what the study is about, say, "It's about opinions on attitudes towards different groups and issues. You can complete it on a laptop. It will take approximately 5 minutes to complete. Are you interested in participating in this study?"

   If their answer is anything other than "yes", say, "No problem! Thanks for your interest and have a nice day."

2. **Consent**
   If they indicate they are interested in participating in the study, hand them the informed consent form, saying "Alright. First, I'll have you read a bit more about the study, which will help you to decide whether you'd like to participate. Please read it, sign it, and hand it back to me when you are finished."

   If the participant does not consent to participate: "Thanks for your interest and have a nice day!"

   If the participate does consent to participate: "Thank you. Let's get you set up for the survey."

3. **Setting up the Survey**
   If one of our laptops is available: "Please take a seat here [gesture to the appropriate computer]. I'll enter the survey password and then you can begin the survey. Please complete this survey quietly and on your own" Enter the survey password ("coffeemug") and return to your table.

   If none of our laptops are available but there is an empty spot at our table: "I'm sorry but there are no laptops available for you right now. If you have your own laptop with you, you're welcome to complete the survey at this seat [gesture to empty seat]. Do you have a laptop with you?"

   > If the participant does have their own laptop, "Ok. Please take a seat, open an internet browser, and then call me over so I can open the survey for you." Enter the survey link and password once they call you over.
   >
   > If the participant does not have their own laptop, "If you would still like to complete the study, you're welcome to wait a few minutes for an available computer—most people complete the survey in approximately 5 minutes, but there's no pressure to wait. You can also come back later; I'll be here until [time]. Of course, you are also free to leave."
   >
   > If they decide to leave, say "Thank you for your interest in this study! Have a nice day."

**4. After the Survey**

When participants finish the survey, say "Thank you for completing the survey! Now you can decide whether you'd like a pen, chocolate bar, or energy bar. Once you've made your choice, please sign one of these forms, and then you're done!" Have them complete a proof of compensation form. Once they do, say "Thanks again and have a nice day!"

## Appendix G: Study 2—Consent Form


Project title: Social Issues 2016-KN

Primary Investigator:
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Research Supervisors:
K. Starzyk
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D. Gaucher
PhD, Department of Psychology, University of Winnipeg
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We invite you to take part in a study conducted by K. Neufeld, in partial completion of her PhD Dissertation. The study investigates people's attitudes towards social issues.

If you choose to participate, you will be asked to provide demographic information (age, ethnicity, gender, etc.) and answer questions about particular groups and social issues. The survey will take approximately 5 minutes or less to complete. You will receive your choice of a chocolate bar, energy bar, or pen.

Your identity as a participant will be strictly anonymous and confidential.

The potential risks associated with this study are minimal. There is some risk that the United States government could access your answers because our survey is hosted by an American-based company (Qualtrics) and all such companies (e.g., Facebook, Google, Hotmail) are subject to American laws such as the Patriot Act. As of April 2017, however, our data will be hosted on Canadian servers and your answers will be anonymous.

We will remove your data from Qualtrics after 1 year. Data collected from this study will be saved on a password-protected computer. It will then be electronically archived on a password-protected server which will only be accessed by the primary investigators and the research team.

All data will be presented in summary form, and no individual responses will be revealed. We wish to discuss the findings of the study at a conference, and to publish the results in a professional journal.

Your participation in this study is voluntary. You can decline to answer any individual question by not responding and you may choose to withdraw your data from the study at any point before publication. You may do so by contacting one of the investigators listed above and providing

them with the following unique, depersonalized identification code, which you will receive at the end of the study. You will also receive a feedback form upon completion of the study. Please feel free to contact the primary investigator with any questions you may have regarding the study or the research or if you choose to withdraw from the study. If you would like to retain a copy of this consent form, please ask the Research Assistant.

The University of Manitoba Research Ethics Board has approved this study. If you have questions or concerns regarding the content of this study or research, please contact one of the researchers listed above or the Human Ethics Coordinator at 204-474-7122.

**Do you agree to participate in this study?**
Yes, I agree
No, I do not agree

Signature: _____

Date: _____

**Appendix H: Study 2—Covariance Matrix for PSM Items**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1: I feel a sense of brotherhood or sisterhood with X | 2.50 | 1.53 | 1.19 | 1.72 | 1.22 | 1.60 | 0.82 | 0.79 | 1.01 |
| 2: I feel a sense of solidarity with X | 1.53 | 2.17 | 1.30 | 1.40 | 1.20 | 1.40 | 0.95 | 0.85 | 1.19 |
| 3: I stand united with X | 1.19 | 1.30 | 1.71 | 1.23 | 1.11 | 1.27 | 1.00 | 0.91 | 1.18 |
| 4: In some ways, I view Xs cause as my cause too | 1.72 | 1.40 | 1.23 | 2.87 | 1.81 | 1.82 | 0.99 | 0.93 | 1.12 |
| 5: I have a role to play in Xs cause | 1.22 | 1.20 | 1.11 | 1.81 | 2.59 | 1.74 | 0.88 | 0.83 | 1.13 |
| 6: I feel connected to Xs cause | 1.60 | 1.40 | 1.27 | 1.82 | 1.74 | 2.32 | 0.97 | 0.91 | 1.14 |
| 7: Policies negatively affecting X should be changed | 0.82 | 0.95 | 1.00 | 0.99 | 0.88 | 0.97 | 1.53 | 1.03 | 1.21 |
| 8: More people should know about how X are negatively affected by this issue | 0.79 | 0.85 | 0.91 | 0.93 | 0.83 | 0.91 | 1.03 | 1.48 | 1.19 |
| 9: It’s important to challenge the power structures that disadvantage X | 1.01 | 1.19 | 1.18 | 1.12 | 1.13 | 1.14 | 1.21 | 1.19 | 1.78 |

## Appendix I: Study 3—Time 2 Consent Form

**Information & Consent Form**

**Project title:** Social Issues 2016-KN

**Primary Investigator:**
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**Research Supervisors:**
K. Starzyk
PhD, Department of Psychology, University of Manitoba, katherine.starzyk@umanitoba.ca
D. Gaucher
PhD, Department of Psychology, University of Winnipeg, d.gaucher@uwinnipeg.ca

We invite you to take part in a study conducted by K. Neufeld, in partial completion of her PhD Dissertation. The study investigates people's attitudes towards social issues.

If you choose to participate, you will be asked to complete a series of questions about particular groups and social issues. Next, you will be asked to provide demographic information (birth year, ethnicity, gender, etc.). The survey will take 30 minutes or less to complete. You will receive a half (0.5) introduction to psychology research participation credit. There are no known risks of participating in this study.

This survey is presented using the American website "Qualtrics." As such, responses are subject to American laws. Risks associated with participation are minimal and are similar to those associated with many email and social media websites such as Gmail and Facebook.

Your identity as a participant will be kept strictly confidential. We will also ask for your SONA identification number in order to credit you, and to remove your data upon completion of our study, should you request that we do so (in which case, you would still receive reimbursement for your time). We will also ask for your name and university email address so that we may recruit you for future studies, if you grant us permission to do so.

Due to the involvement SONA IDs and other identifying information, your data will be confidential but it will not be anonymous. However, all data will be presented in summary form, and no individual responses will be revealed. We will also remove all identifying information from the data file once we have linked it with the prescreening data. Only the primary investigators and the research team will have access to data from this study.

We will remove your data from Qualtrics after 1 year. Data collected from this study will be saved on a password-protected computer in a locked office. It will then be electronically archived on a password-protected server which will only be accessed by the primary investigators and the research team. We wish to discuss the findings of the study at a conference,

and to publish the results in a professional journal.

Your participation in this study is voluntary. You can decline to answer any individual question by not responding and you may choose to withdraw your data from the study at any point before publication. You will also receive a feedback form upon completion of the study. Please feel free to contact the primary investigator with any questions you may have regarding the study or the research or if you choose to withdraw from the study. If you would like to retain a copy of this consent form, please print or save one now.

We would like to assure you that this study has been reviewed by and received ethics clearance through the Psychology/Sociology Research Ethics Board of the Office of Research Services at the University of Manitoba. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please feel free to contact the Human Ethics Coordinator, Office of Research Services, at (204) 474-7122.

**Do you agree to participate in this study?**

Yes, I agree

No, I do not agree

## Appendix J: Study 4—Time 1 Consent Form

**Project title:** Social Issues 2017-KN

**Primary Investigator:**
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D. Gaucher
PhD, Department of Psychology, University of Winnipeg, d.gaucher@uwinnipeg.ca

We invite you to take part in a study conducted by K. Neufeld, in partial completion of her PhD Dissertation. The study investigates people's attitudes towards social issues.

If you choose to participate, you will be asked to complete a series of questions about particular groups and social issues. Next, you will be asked to provide demographic information (birth year, ethnicity, gender, etc.). We estimate that this survey will take 15 minutes or fewer to complete. You will receive a half (0.5) introduction to psychology research participation credit. There are no known risks of participating in this study.

This is one part of a two-part study. If you complete this study, you receive an email invitation to complete the second study three weeks from now, if you so choose; completing the second study is not necessary.

Your identity as a participant will be kept strictly confidential. We will ask for your SONA identification number in order to credit you, and to remove your data upon completion of our study, should you request that we do so (in which case, you would still receive reimbursement for your time). We will also ask for your university email address so that we may recruit you for future studies, if you grant us permission to do so.

Due to the involvement of SONA IDs and email addresses, your data will be confidential but it will not be anonymous. However, all data will be presented in summary form, and no individual responses will be revealed. Only the primary investigators and the research team will have access to data from this study. We will permanently delete your email address after data collection is complete.

We will remove your data from Qualtrics after 1 year. We will save the data on a password-protected computer in a locked office. It will then be electronically archived on a password-protected server which will only be accessed by the primary investigators and the research team. We wish to discuss the findings of the study at a conference, and to publish the results in a professional journal.

Your participation in this study is voluntary. You can decline to answer any individual question by not responding and you may choose to withdraw your data from the study at any point before publication. You will also receive a debriefing form upon completion of the study. Please feel free to contact the primary investigator with any questions you may have regarding the study or the research or if you choose to withdraw from the study. If you would like to retain a copy of this consent form, please print or save one now.

The University of Winnipeg Human Research Ethics Board (UHREB) has approved this study. If you have questions or concerns regarding the content of this study or research, please contact one of the researchers listed above. If they are unable to address your questions, you may contact the UHREB Program Officer at 204-786-9058, or the Department of Psychology Ethics Chair, Dr. H. Bradbury, at 204-786-9145.

**Do you agree to participate in this study?**

Yes, I agree

No

## Appendix K: Study 4—Time 2 Consent Form

**Project title:** Social Issues 2017-KN

**Primary Investigator:**
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D. Gaucher
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We invite you to take part in a study conducted by K. Neufeld, in partial completion of her PhD Dissertation. The study investigates people's attitudes towards social issues.

If you choose to participate, you will be asked to complete a series of questions about particular groups and social issues. Next, you will be asked to provide demographic information (birth year, ethnicity, gender, etc.). We estimate that this survey will take 15 minutes or fewer to complete. You will receive a half (0.5) introduction to psychology research participation credit. There are no known risks of participating in this study.

This is the second part of a two-part study.

Your identity as a participant will be kept strictly confidential. We will ask for your SONA identification number in order to credit you, and to remove your data upon completion of our study, should you request that we do so (in which case, you would still receive reimbursement for your time).

Due to the involvement of SONA IDs and email addresses, your data will be confidential but it will not be anonymous. However, all data will be presented in summary form, and no individual responses will be revealed. Only the primary investigators and the research team will have access to data from this study. We will permanently delete your email address after data collection is complete.

We will remove your data from Qualtrics after 1 year. We will save the data on a password-protected computer in a locked office. It will then be electronically archived on a password-protected server which will only be accessed by the primary investigators and the research team. We wish to discuss the findings of the study at a conference, and to publish the results in a professional journal.

Your participation in this study is voluntary. You can decline to answer any individual question by not responding and you may choose to withdraw your data from the study at any point before

publication. You will also receive a debriefing form upon completion of the study. Please feel free to contact the primary investigator with any questions you may have regarding the study or the research or if you choose to withdraw from the study. If you would like to retain a copy of this consent form, please print or save one now.

The University of Winnipeg Human Research Ethics Board (UHREB) has approved this study. If you have questions or concerns regarding the content of this study or research, please contact one of the researchers listed above. If they are unable to address your questions, you may contact the UHREB Program Officer at 204-786-9058, or the Department of Psychology Ethics Chair, Dr. H. Bradbury, at 204-786-9145.

**Do you agree to participate in this study?**

Yes, I agree

No

## Appendix L: Study 4—Comparison of Original and Modified PSM Cause Connection Items

| Original Item Wording | Revised Item Wording |
|---|---|
| In some ways, I view X's cause as my cause, too | In some ways, I view the issue of Y for X as my cause, too |
| I have a role to play in X's cause | I have a role to play in the issue of Y for X |
| I feel connected to X's cause | I feel connected to the issue of Y for X |

*Note*. "X" denotes the outgroup name; "Y" denotes the outgroup's cause.

## Appendix M: Study 5—Experimenter Scripts

### Pre-Survey Script

Invite participants to take a seat at a prepared computer (i.e., survey loaded and screen off). Say:
*Hello. In this study, you'll learn about a social issue happening in Canada and give your opinions on it. You'll complete the survey on the computer in front of you. Please let me know when you have finished the survey.*
*If you have questions at any point, I'll be waiting in the hallway. If I'm not in the hallway, that means I'm helping another participant; please wait in the hallway and I'll be happy to help you as soon as possible.*
*You can turn on the computer monitor and begin now.*

Make sure the participant is set up at the computer and able to complete study, and then exit the room and shut the door. Repeat for each participant.

### Post-Survey Script

Once the participant indicates that they are finished with the study, enter the study room, shut the door, and begin the debriefing:
*The study is now over. Thank you for participating. As you know, we were interested in investigating people's attitudes towards a Canadian social issue. Specifically, we were interested in political solidarity with Indigenous Peoples in Canada and how it is related to other attitudes and behaviours. We thought that people who report the highest levels of political solidarity with Indigenous Peoples would be more likely to agree to create a message of support and to donate some of their $5 to a reconciliation charity.*

*During the study, we asked you if you were interested in creating a video or written message in support of reconciliation, which would be part of an on-campus campaign run by the Indigenous Student Council. Although there are many efforts on campus to promote reconciliation, and there are also Indigenous student groups, the campaign and student group we mentioned are not real. This means that even if you said you wanted to create a video or written message, you won't be doing that now. We are sorry to have misled you. We couldn't tell you this information before you participated because it would have invalidated our results (people often act differently after learning of the hypotheses of research).*

*During the study, you also had the opportunity to donate none, some, or all of your $5 payment to a charity called Reconciliation Canada. This is a real Canadian charity, and we will send them 100% of all participant donations.*

*Given that the hypotheses were slightly more complicated than we had first presented to you, you may decide that you don't want us to forward on any donation that you may have made. If that is the case, simply let me know now and I will return your donation to you. If you decide to keep the donation as is, we will forward it to the nonprofit group, Reconciliation Canada (wait for participant's response).* **(note: If participants want their money back give it from the donation box)**

*Finally, it is important that you do not tell anyone else about the details of this study, especially other students in Introduction to Psychology at the U of M. Again, if other participants know about the details and then complete the study, this would invalidate our results; people often act differently after they learn about the goals of a study.*

*Thank you again for participating in this study investigating political solidarity. Here is your debriefing form with all of these details, and the contact information of the lead investigator on the project in case you have any questions or concerns that you'd like to bring up with her (present with debriefing form).*

*Do you have any questions now?* **(wait for participant's response).**

*Alright, I just need you to sign your name here* (**present record of participation form and pen)** *and sign your name here* **(present participant sign out form)** *to keep record of your participation and payment. If you'd like to receive a summary of the email results when they're available (likely next fall), please sign your email address here—it's up to you, no pressure* **(present with request for feedback form).**

Lead participant out of the room.

## Appendix N: Study 5—Consent Form

Project title: Social Issues 2017-KN

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This consent form, a copy of which you may keep for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

We invite you to take part in a study conducted by K. Neufeld, in partial completion of her Ph.D. dissertation. The study investigates people's attitudes towards social issues.

If you choose to participate we will ask you to provide some information about yourself, such as your age, gender, and ethnicity. Next, you will complete a series of questions about social groups and issues. The survey will take 30 minutes or less to complete; we expect most participants will complete the study in 10-15 minutes.

The benefits of participating in this study are that you will receive one Introduction to Psychology research participation credit, as well as $5. If you withdraw at any point during the study, you will still receive compensation. Also, you will learn first-hand about research in Social and Personality Psychology at the University of Manitoba.

The potential risks associated with participating in this study are expected to be no greater than those which people likely experience in everyday life as a consequence of learning about social issues. However, we are aware that for some people, the issues discussed in this survey may be sensitive and that reflecting on these issues might create feelings of distress. We expect these

feelings to be temporary. If these negative feelings persist, we encourage you to visit the Student Counselling Centre at 474 University Centre (204-474-8592).

All the information we collect is confidential, meaning that only members of the research team will normally have access to it. We will remove your data from the online survey software, Qualtrics, after one year. We will store an anonymized copy of the data on a password-protected computer affiliated with the Social Justice Laboratory, likely indefinitely. The University of Manitoba Research Ethics Board(s) may also require access to your research records for safety and quality assurance purposes.

We may present the findings of this study at academic conferences or submit a manuscript or other written work based on this study for publication. We may also draft publicly accessible summaries of our findings or report on our research to media organizations. In doing so, we will only report our summary findings. We will never report the answers of one person.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

The Human Research Ethics Board has approved this research. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator at 204-474-7122. You may keep a copy of this consent form for your records and reference.

Do you agree to participate in this study?

Yes, I agree
No, I do not agree to participate in this study

## Appendix O: Study 5—Regression Results with Modern Racism Assessed at Prescreening

*Linear Multiple Regression Results for Impact of Predictors on Donations*

| Predictor | Non-Bootstrapped Estimates | | | | |
|---|---|---|---|---|---|
| | *b* (SE) | *β* | 95% CI | *t* | *p* |
| Constant | -0.09 (1.08) | -- | [-2.03, 2.21] | -0.08 | .93 |
| PSM | 0.48 (0.16) | .23 | [0.17, 0.78] | 3.08 | .002 |
| Modern Racism (Prescreening) | 0.02 (0.17) | .01 | [-0.33, 0.36] | 0.10 | .92 |

*Note.* $N = 216$. $R^2 = .05$.

*Binary Logistic Regression Results for Impact of Predictors on Likelihood of Agreeing to Create a Message of Support*

| Predictor | *b* (SE) | *p* | Odds Ratio | 95% CI |
|---|---|---|---|---|
| Constant | -6.11 (1.62) | <.001 | 0.002 | -- |
| Political Solidarity | 1.03 (0.275) | <.001 | 2.81 | [1.72, 4.58] |
| Modern Racism (Prescreening) | -0.22 (0.24) | .36 | 0.80 | [0.50, 1.29] |

*Note*. $N = 218$. Nagelkerke's $R^2 = .20$. Hosmer-Lemeshow Goodness of Fit $\chi^2(8) = 5.36$, $p = .72$.

**Appendix P: Study 2—Latent Variable Correlations Across Issues**

| Factor | All Issues | Gendered income equality | Black Lives Matter | Inquiry into missing and murdered Indigenous women | Reconciliation with Indigenous Peoples in Canada | Transgender rights | Admitting Syrian refugees to Canada |
|---|---|---|---|---|---|---|---|
| Allyship & Social Change Commitment | .81 | .57 | .75 | .85 | .70 | .70 | .89 |
| Allyship & Cause Connection | .87 | .80 | .81 | .98 | .92 | .60 | .91 |
| Cause Connection & Social Change Commitment | .70 | .67 | .61 | .73 | .81 | .47 | .72 |

*Note*. For subgroup analyses (i.e., for each issue), correlations are based on unconstrained models.