Title

A latent profile analysis of attributions for poverty: Identifying response patterns underlying people's willingness to help the poor

Permalink

https://escholarship.org/uc/item/5gg8z7kb

Authors

Osborne, Danny
Weiner, Bernard

Publication Date

2015-10-01

DOI

10.1016/j.paid.2015.05.007

Peer reviewed

A Latent Profile Analysis of Attributions for Poverty: Identifying

Response Patterns Underlying People's Willingness to Help the Poor

WORD COUNT: 7,761

Abstract

Poverty beliefs vary along four causal dimensions: locus, stability, personal control, and other control. I extend this framework by identifying response patterns (latent profiles) underlying these beliefs. Specifically, participants ($N = 315$) belonged to one of three latent profiles: *Unsympathetic* (high internal locus; moderate stability; high personal control; high other control), *Sympathetic* (low internal locus; moderate stability; low personal control; high other control), and *Moderate* (moderate across dimensions). Conservatism and system justification were positively associated with belonging to the *Unsympathetic* (vs. *Sympathetic*) profile. Consequently, membership in the *Unsympathetic* profile correlated with more anger, less sympathy, and less support for personally—and others—helping the poor. These findings advance attribution theory by taking a *person*-centred (vs. *variable*-centred) perspective on poverty beliefs.

Keywords: poverty; attributions; conservatism; system justification; helping; latent profile analysis

A Latent Profile Analysis of Attributions for Poverty: Identifying

Response Patterns Underlying People's Willingness to Help the Poor

"The real tragedy of the poor is the poverty of their aspirations"

— Adam Smith

"Overcoming poverty is not a task of charity, it is an act of justice. Like slavery and apartheid, poverty is not natural. It is man-made and it can be overcome and eradicated by the actions of human beings"

—Nelson Mandela

The quotes presented above highlight the remarkable variability in people's beliefs about the causes of poverty. By attributing people's destitution to their (lack of) aspirations, Adam Smith implies that being poor is caused by factors that reside *within* the person. In contrast, Nelson Mandela's simile between poverty and slavery places the roots of poverty *outside* the person. Additionally, both quotes indicate that the underlying cause of poverty is controllable, albeit by different agents. Whereas the former theorist suggests that being poor is personally controllable, Mandela argues that poverty is "man-made" and under the control of others. ~~Thus, beliefs about the underlying causes of poverty can vary across multiple dimensions~~. Both also imply the causes of poverty are stable or enduring.

Whereas a healthy body of research has developed examining people's beliefs about the underlying causes of poverty (see Weiner, Osborne, & Rudolph, 2011), the current study aims to extend this work by identifying unique sets of response patterns (i.e., latent profiles) to these beliefs that include the properties of locus, control, and stability.

The paper initially provides Specifically, it is possible that a subgroup of people believe that poverty is caused by factors that (a) exist within the person, (b) are personally controllable, and (c) last for a long period of time. In contrast, another subgroup may think that the cause of poverty (a) exists outside the person, (b) is controllable by others, and (c) is relatively short-lived. A third subgroup may believe that the underlying cause of poverty exists somewhere between these extremes. The extant literature, however, only provides a snapshot of the relationship between these variables (e.g., internal attributions correlate with the attribution of control). The current manuscript extends this *variable*-centred framework by taking a *person*-centred approach to people's beliefs about poverty that allows one to identify homogenous response patterns underlying these separate causal beliefs.

I begin by providing a review of the literature on people's attributions for poverty. Following this, I introduce a framework for assessing the causal dimensions underlying people's attributions for poverty is introduced. A brief overview of latent profile analysis (LPA) is then provided in order to raise awareness about advances in latent variable mixture modelling that allow researchers to identify similar response patterns across sets of continuous measures. I conclude by introducing the current study and outlining the research questions and ensuing hypotheses that motivate this research.

Attributions for Poverty

Although there are undoubtedly countless reasons for why a person may lack financial resources, one of the main contributions of attribution theory is its ability to take a wide array of explanations (i.e., phenotypic causes) and find a smaller set of principles (i.e., genotypes) that link them together (see Weiner, 1985, 2006). Accordingly, early work on attributions for poverty showed that people's idiosyncratic explanations for others' impoverished state could be grouped in accordance with the following three causes: (a) the individual (e.g., low effort or lack of thrift), (b) society (e.g., low wages or poor job market), or (c) fate (e.g., sickness or low ability; see Feagin, 1972; Feather, 1974; Furnham, 1982a, 1982b, 1982c). Thus, various explanations for poverty can be reduced to three basic themes.

Subsequent research has consistently replicated this tripartite distinction between attributions for poverty. Bullock, Williams, and Limbert (2003) had students evaluate 45 separate causes of poverty and found that, despite the diversity of these explanations, they loaded onto three distinct factors reflecting (a) individualistic, (b) structural (i.e., society), and (c) fatalistic causes. Others have shown similar factor structures to people's attributions for poverty in various countries including (a) Ethiopia (Wollie, 2009), (b) Finland (Niemela, 2008), (c) Lebanon (Abouchedid & Nasser, 2002; Nasser, 2007), and Turkey (Morçöl, 1997). Thus, the ability to reduce various idiosyncratic attributions for poverty into three themes holds across cultures.

Critically, the types of attributions people make for poverty have distinct antecedents and consequences. As for the antecedents, those who are young, male, and European attribute poverty to the individual more than do those who are old, female, and from a minority group, respectively (Hastie, 2010; Kluegel & Smith, 1986; Morçöl, 1997; Skitka, Mullen, Griffin, Hutchinson, & Chamberlin, 2002). Levels of political conservatism also positively correlate with people's tendency to make internal

attributions ([Cozzarelli, Wilkinson, & Tagler, 2001](#); [Hine & Montiel, 1999](#); [Shirazi & Biel, 2005](#); [Zucker & Weiner, 1993](#)). Structural and fate-based attributions, however, tend to be made by the poor ([Bullock, 1999](#); [Furnham, 1982a](#); [Kluegel & Smith, 1986](#); [Morçöl, 1997](#); [Niemela, 2008](#)). Thus, demographic variables are associated with people's attributions for poverty.

The types of attributions people use to explain poverty also correlate with important outcomes. Kluegel and Smith ([1986](#)) showed that attributing poverty to structural factors was positively, whereas making individual attributions was negatively, associated with support for welfare policies. Others have confirmed that explanations that place the blame on the poor (i.e., individualistic attributions) are negatively correlated with people's support for policies designed to help those in need ([e.g., Appelbaum, 2001](#); [Bullock et al., 2003](#)). Importantly, the relationship between people's attributions for poverty and their subsequent willingness to help the poor are mediated by the affective responses elicited by such attributions. Zucker and Weiner ([1993](#)) demonstrated that structural causes tend to evoke pity towards the poor, whereas individualistic causes indirectly evoke anger through the belief that the poor are responsible for their destitution. In turn, pity positively, whereas anger negatively, correlates with people's willingness to help the poor. Thus, how people explain poverty has important implications for their willingness to help those in need.

An alternative attributional framework

Although the tripartite classification of people's attributions for poverty has yielded a number of insights into the impact that different attributions have on people's support for—or opposition to—helping the poor, there may be critical distinctions *within* these broad themes. Despite both causes being located inside the person, people will likely respond differently to someone who was fired for repeatedly showing up to work

intoxicated vs. a person who has become unemployed because of a life-threatening illness (see Weiner et al., 2011). As such, Weiner (1979, 1985) proposes an alternative framework for classifying people's attributions whereby explanations for various outcomes vary along three discrete causal dimensions: (a) locus (i.e., internal vs. external), (b) stability (i.e., stable vs. unstable), and (c) control (i.e., controllable vs. uncontrollable). Weiner (1995, 2006) and others (e.g., McAuley, Duncan, & Russell, 1992; Russell, 1982) have since extended the model to include a fourth dimension that separates beliefs about control into factors that are controllable (vs. uncontrollable) by the self and others.

Part of the attractiveness of Weiner's (1985) model exists in its applicability to a wide array of phenomena. Within the helping domain, people are more likely to offer assistance to those in need when the cause is seen as personally uncontrollable (Schmidt & Weiner, 1988). Conversely, believing that the contraction of AIDS is controllable by the victim is negatively associated pity which, in turn, is positively correlated with people's willingness to help those with the life-threatening disease (Dooley, 1995; Weiner, Perry, & Magnusson, 1988). Finally, Skitka and Tetlock (1992) showed that those in need of assistance due to controllable causes located within the person elicit less sympathy and pity, but more disgust and distaste, than those who need help because of (a) uncontrollable causes located within the person, (b) controllable causes located outside the person, and (c) uncontrollable causes located outside the person. Thus, it is critical to distinguish between the locus and controllability of a cause—a distinction that has been overlooked in the extant literature on poverty (see Weiner et al., 2011).

Latent Profile Analysis

Although the literature on attribution theory has done an excellent job of documenting the relationship between people's causal beliefs and various antecedents

and/or consequences of these attributions, an analysis of how combinations of these causal beliefs cohere *within* a person has yet to be pursued. That is, the extant literature has overlooked the possibility that unique sets of response patterns underlie people's beliefs about poverty. Specifically, it may be that a distinct subset of the population sees poverty as something that is caused by factors that (a) exist within the poor, (b) are largely stable, (c) are personally controllable, and (d) are outside the control of others. In contrast, others may feel that poverty is due to forces that (a) reside outside the person, (b) are short-lived, (c) are uncontrollable by those in poverty, yet (d) can be controlled by others. Traditional analytic procedures, however, have been unable to assess these possibilities.

Recent advances in the accessibility of latent variable mixture modelling have made it possible to assess distinct response patterns underlying people's causal beliefs about poverty. Latent profile analysis (LPA)—a type of mixture model—identifies subgroups of people who share a similar response pattern to continuously-measured observed variables (i.e., indicator variables). Similar to factor analysis, LPA assumes that correlations between indicators are caused by an underlying latent variable. Factor analysis and LPA differ, however, in that the former approach assumes that a *continuous* latent variable explains the co-variation between indicators, whereas the latter approach is used when a *categorical* latent variable accounts for these relationships (see Collins & Lanza, 2010; also see Lubke & Neale, 2006). Thus, LPA is ideally-suited for examining the different attributional styles people employ when explaining poverty.

For interested readers, comprehensive treatments of LPA are provided elsewhere (see Asparouhov & Muthén, 2013; Collins & Lanza, 2010; Goodman, 2002; McCutcheon, 2002; Nylund, Asparouhov, & Muthén, 2007; Vermunt, 2010). Nevertheless, a brief overview of the procedures for estimating a latent profile model is

helpful. LPA begins by identifying the number of distinct patterns underlying participants' responses to indicator variables. Once an appropriate number of latent profiles are identified, participants' probability of belonging to each latent profile is estimated on the basis of their responses to the indicator variables. Given that the probability of profile membership is calculated for each latent profile, classification errors (i.e., measurement error) can be identified and adjusted for when estimating people's most likely *latent* profile membership. Auxiliary variables/covariates can then be introduced to the model as a way of predicting the likelihood that participants' belong to a given profile (relative to a comparison profile).

LPA is a flexible analytic tool that has been applied to multiple subject areas. Within the epidemiological literature, Kessler, Stein, and Berglund (1998) conducted a latent class analysis (an approach conceptually similar to LPA that uses dichotomous indicator variables) to show that two latent subgroups characterized by distinct symptomologies exist within the general diagnosis of social phobia: (a) those with a public fear of speaking and (b) those with a generalized social phobia. Other examples include Blank and Schmidt's (2003) use of LPA to identify distinct subtypes of nationalism, Weber and Federico's (2013) distinction between different types of liberals and conservatives, and Osborne, Sibley, Smith, and Huo's (2014) critical evaluation of the doubly-deprived response profile. Thus, LPA can be used whenever latent subgroups are believed to underlie people's observed responses. Nevertheless, research has yet to use LPA to examine distinct response patterns underlying people's causal beliefs about poverty.

Current Study

The current study aims to identify distinct patterns underlying people's beliefs about the causes of poverty. Specifically, I assess people's beliefs about the extent to

which poverty is caused by factors that (a) exist within (vs. outside) the person (i.e., locus), (b) are enduring (vs. short-lived; i.e., stability), and are controllable (vs. uncontrollable) by either (c) the self (i.e., personal control) or (d) others (i.e., other control). After identifying a common set of response patterns, I use a number of covariates to predict participants' membership in these distinct profiles. I conclude by examining the extent to which membership in each of these latent profiles is associated with outcomes relevant to attribution theory. Before describing the method and procedures, I outline the research question and accompanying hypotheses motivating this research.

Research question

The main aim of the current study is to identify distinct response patterns underlying people's beliefs about the causes of poverty. Specifically, research shows that attributions for poverty revolve around three specific themes (i.e., individual, society, and fate; see Feather, 1974). Advancements in the literature situate these attributions within a general framework that decomposes a given causal explanation along the following four dimensions: (a) locus, (b) stability, (c) personal control, and (d) other control (see McAuley et al., 1992; Weiner et al., 2011). The extent to which there are subtypes of participants who produce homogenous response patterns across these causal dimensions, however, has never been examined. Thus, the current study asks the following question: How many distinct latent profiles are needed to capture people's beliefs about the causes of poverty? Relatedly, what is the nature of these response patterns?

Assuming that multiple latent profiles exist, a related goal is to identify which of these response patterns is typical of the average person. That is, is there a pattern of responses that is followed more often than others? Such an understanding has important implications for the framing of the debate around welfare and related policies aimed at

redressing poverty (see Limbert & Bullock, 2009). That is, policies could be framed in a manner that targets shared (mis)perceptions about the causes of poverty. Thus, identifying people's 'typical' response pattern could inform debates over public policy.

Hypotheses

Antecedents. Assuming that there are distinct response patterns underlying people's beliefs about poverty, these latent profiles should be associated with demographic variables. Specifically, minorities tend to be more sympathetic to the poor than majority group members (Appelbaum, 2001; Hunt, 1996; Kluegel & Smith, 1986). Past research also indicates that women express greater levels of support for social welfare policies than do men (Shirazi & Biel, 2005; Stephenson, 2000). As such, minorities and women should be more likely than majority group members and men to belong to latent profiles that reflect forgiving beliefs about the causes of poverty (i.e., believing that poverty is caused by factors outside of the person and personally uncontrollable).

People's socio-political attitudes should also be associated with their unique response patterns. Indeed, Weiner and colleagues (2011) argued that political ideology is an important antecedent to people's causal beliefs about poverty. Specifically, because the core principles of conservatism centre on (a) opposition to change and (b) acceptance of inequality (see Jost, Glaser, Kruglanski, & Sulloway, 2003), conservatives should be more likely than liberals to locate the cause of poverty within the person and to view one's destitute status as personally controllable (also see Zucker & Weiner, 1993). Accordingly, research shows that political conservatism is positively associated with attributions that are unsympathetic to the poor (see Bullock, 1999; Cozzarelli et al., 2001; Hine & Montiel, 1999; Hopkins, 2009; Skitka, 1999). Therefore, we predict that

participants' level of conservatism will correlate with membership in latent profiles marked by high levels of internal and personally controllable attributions for poverty.

Finally, system justification theory argues that people have a basic motivation to view the status quo as fair (Jost & Hunyady, 2002, 2005). Because institutionally-based (or even random) causes of poverty would directly contradict such a perspective, people's level of system justification should be positively associated with a pattern of causal beliefs that places blame on the poor. Indeed, research shows that people's belief in a just world—a concept related to people's levels of system justification (see Jost & Hunyady, 2002)—is positively associated with blaming the poor for their plight (Cozzarelli et al., 2001; Furnham & Gunter, 1984; Harper, Wagstaff, Newton, & Harrison, 1990). Thus, levels of system justification should positively correlate with membership in latent profiles characterized by the belief that poverty is caused by internal and controllable factors.

Consequences. In addition to being *predicted by* covariates, people's membership in the distinct latent profiles should be associated with *outcomes* relevant to attribution theory. Specifically, research indicates that internal attributions for poverty elicit negative feelings toward—and a tendency to withhold help from—the poor (Cozzarelli et al., 2001). Likewise, poverty attributed to personally controllable factors give rise to similar negative responses to the poor (Will, 1993). As such, latent profiles marked by lower levels of internal attributions and personal control should be associated with greater sympathy and less anger than latent profiles marked by higher levels of internal attributions and personal control. Likewise, people who belong to latent profiles that view the cause of poverty as being outside the poor and personally uncontrollable should be more willing than those who think poverty is caused by factors that reside within the

person and are personally controllable to support assisting those in need (see Weiner, 2006).

Method

Participants

Participants were 315 undergraduates (M_{age} = 21.23, SD_{age} = 4.90) who participated in this study for a chance to win a $200 gift card. Most participants were women (83.3%) and a majority identified as New Zealand European (52.8%). The rest of the sample identified as (a) Asian (21.9%), (b) Māori (2.3%), (c) Pacific Islander (4.0%), or (e) other (18.9%). As for their stage of education, a roughly equal proportion of participants indicated that they were in the (a) first (26.4%), (b) second (34.1%), or (c) third (25.4%) year of their degree; the rest of the sample (14%) were either in their fourth year of study, had begun post-graduate work, or had completed their degree.

Measures

A survey assessing beliefs about poverty was developed for the current study. This survey included measures of (a) the causal dimensions of poverty, (b) antecedents to these beliefs, and (c) outcomes associated with these attributions (please see the Appendix for the wording of all items used in this study). The descriptive statistics and bivariate correlations for these variables are displayed in Table 1.

Causal beliefs. McAuley and colleagues' (1992) 12-item Revised Causal Dimension Scale was used to assess causal beliefs about poverty. Specifically, participants were asked to indicate whether "being poor [is] caused by" factors that are (a) internal (vs. external) to the person (i.e., locus), (b) stable (vs. unstable) over time (i.e., stability), (c) controllable (vs. uncontrollable) by the person (i.e., personal control),

and (d) controllable (vs. uncontrollable) by others (i.e., other control). Each causal dimension was assessed by three items that were rated on a 7-point semantic differential scale with anchors representing extremes of the given dimension. An example locus item is "reflects an aspect of the person" vs. "does not reflect an aspect of the person". An example stability item is "stable over time" vs. "variable over time". An example personal control item is "the person has power over" vs. "the person has no power over". An example other control item is "others can control" vs. "others cannot control". Items were coded so that high values reflect high levels of the given construct and were averaged to form measures of (a) locus (α = .79), (b) stability (α = .65), (c) personal control (α = .83), and (d) other control (α = .71).

Antecedents. Fourteen items assessed antecedents to the latent profiles underlying participants' attributions for poverty. Three of these items assessed participants' (a) age, (b) sex, and (c) ethnicity. Another three items asked participants to indicate the extent to which they viewed themselves as (a) socially, (b) economically, and (c) generally conservative on a 7-point scale (1 = very liberal; 7 = very conservative). These items were averaged to form a measure of conservatism (α = .86).The final eight items assessed participants' motivation to justify the system using Kay and Jost's (2003) system justification scale. Example items are: (a) "in general, the political system in New Zealand operates as it should" and (b) "New Zealand society needs to be radically restructured" (reverse-coded). These items were rated on a 7-point scale (1 = strongly disagree; 7 = strongly agree) and averaged to form a measure of system justification (α = .78).

Outcomes. Fourteen items—all of which were rated on a 7-point scale (1 = strongly disagree; 7 = strongly agree)—assessed standard outcomes in the attribution literature. Four of these items assessed anger towards the poor by having participants

indicate the extent to which they felt (a) angry, (b) "annoyed", (c) "mad", and (d) "irritated with the poor" (α = .89). Three additional items assessed sympathy towards the poor by having participants indicate the extent to which they felt (a) "sorry", (b) "sympathy", and (c) "concern for the poor" (α = .81). An additional three items assessed support for personally helping the poor by having participants indicate their personal willingness to (a) "donate food or clothing", (b) "make a financial contribution", or (c) "support not-for-profit programs" (α = .73). The final four items assessed support for others' helping the poor by having participants indicate whether they (a) thought "the government needs to do more to help the poor", (b) supported "a tax increase if it would help the poor", (c) thought that "charity organizations should provide more to help the poor", and (d) felt that it was the country's responsibility "to help those who are less fortunate" (α = .81).

Results

Preliminary analyses

As an initial step in the analyses, I sought to demonstrate that (a) locus, (b) stability, (c) personal control, and (d) other control formed distinct causal dimensions underlying participants' beliefs about poverty. As such, I conducted a Confirmatory Factor Analysis (CFA) using *Mplus version 7.11* (Muthén & Muthén, 1998-2012). In pursuing these analyses, each item on the attribution scale was allowed to load onto one (and only one) of the latent factors (e.g., items assessing personal control were *only* allowed to load onto the latent factor for personal control, whereas items assessing the stability of the cause were *only* allowed to load onto the latent factor for stability). Good-fitting models yield a comparative fit index (CFI) greater than (or equal to) .96, a standardized root mean square residual (sRMR) of less than .09, and a root mean square error of approximation (RMSEA) of less than .06 (see Hu & Bentler, 1999).

As expected, results indicated that the hypothesized four-factor model provided an excellent fit to these data, χ^2 (48) = 94.453, p < .001; CFI = .963; sRMR = .054; RMSEA = .055 (90% CI = .039, .072; p = .278). Moreover, an alternative model in which all six control items (i.e., three personal control and three other control items) were allowed to load onto a single latent control dimension provided a poor fit to the data, χ^2 (51) = 239.482, p < .001; CFI = .849; SRMR = .077; RMSEA = .108 (90% CI = .095, .122; p < .001). These results show that four causal dimensions underlie participants' beliefs about poverty.

Latent profile analysis

After demonstrating the factorial structure of the scale, I proceeded to identify the latent profiles underlying people's attributions for poverty. To these ends, I conducted an LPA using Asparouhov and Muthén's (2013) three-step approach in *Mplus v. 7.11* (Muthén & Muthén, 1998-2012). This method begins by identifying the number of latent profiles that account for the co-variation between indicator variables. Next, participants are assigned to the specific latent profile to which they most likely belong (taking into account the uncertainty in profile membership). Finally, participants' membership in the given latent profile is predicted by covariates that are subsequently entered into the model. Because covariates are added *after* the latent profiles have been estimated, the covariates are unable to affect the composition of these latent profiles.

Numerous scholars have highlighted the benefits of the three-step approach over other procedures. Vermunt (2010) noted that the one-step method, which estimates a latent profile model (i.e., the measurement model) at the same time that covariates are used to predict one's latent profile membership (i.e., the structural model), has a number of flaws. First, because the measurement model must be re-estimated each time a covariate is added or removed, the one-step method can be impractical. Second, it is

difficult to decide whether or not to include covariates when estimating the number of latent profiles in a model. Third, research questions often start with the aim of identifying the latent profiles. As such, the one-step approach is inconsistent with the logic motivating research. Thus, many recommend using the three-step approach to estimate latent profile models (Asparouhov & Muthén, 2013; Berlin, Williams, & Parra, in press).

Similar to structural equation models, the acceptability a given latent profile model is determined on the basis of model fit. McCutcheon (2002) notes that there are four common criteria used to assess model fit including the (a) chi-square test (χ^2), (b) likelihood ratio chi-square test (G^2), (c) Akaike information criteria (AIC), and (d) Bayesian information criteria (BIC). Both the χ^2 and G^2 tests, however, tend to be conservative in large samples. Therefore, the AIC and BIC—fit indices that either account for the number of parameters estimated or a combination of the parameters estimated and sample size, respectively—are preferred when evaluating model fit. Specifically, models that produce small AICs and/or BICs are preferred over models with large AICs and/or BICs (keeping parsimony in mind).

Latent profile analysis

To identify the distinct number of response patterns underlying people's attributions for poverty, participants' responses to the composite measures of (a) locus, (b) stability, (c) personal control, and (d) other control were treated as indicators of a range of possible latent profiles. Specifically, I examined the possibility that between 1 and 4 latent profiles could explain the co-variation between the four indicator variables. To avoid settling on a local solution to these models, each model was estimated with 5000 initial stage starts, 20 initial stage iterations, and 500 final stage optimizations (for *Mplus* syntax, see the Appendix). The results of these analyses are shown in Table 2.

As seen here, model fit improved considerably when moving from one to two latent profiles. Whereas the BIC for a model with one latent profile was 8476.047, the BIC dropped to 3820.563 for the two-profile model (ΔBIC$_{1\rightarrow2\,\text{profiles}}$ = 4655.484). Another sizeable drop in the information criteria occurred with the addition of a third latent profile (ΔBIC$_{2\rightarrow3\,\text{profiles}}$ = 51.807). The addition of a fourth latent profile, however, resulted in a trivial decrease in both the AIC (ΔAIC$_{3\rightarrow4\,\text{profiles}}$ = 11.744) and sample-size adjusted BIC (aBIC; ΔaBIC$_{3\rightarrow4\,\text{profiles}}$ = 8.840), as well as an *increase* in the BIC (ΔBIC$_{3\rightarrow4\,\text{profiles}}$ = -7.019). Moreover, the number of participants falling into this fourth profile was too small ($n = 9$) to be meaningful. Together, these results show that a three-profile model provided the best fit to these data. Indeed, the entropy values shown in Table 2 indicate that classification certainty was high in the three-profile model.

Additional support for a three-profile model is shown in Table 3. Values highlighted along the diagonal reflect the average probability that participants were correctly categorized in the given latent profile. In contrast, values appearing in the off-diagonal reflect the average probability that participants were *miscategorised* in the given latent profile. For example, a participant whose most likely latent profile membership was in *Profile 1* had a 94.0% chance of being correctly categorized, whereas the same person had only a 6.0% chance of being incorrectly categorized in *Profile 2*. Thus, the results shown in Table 3 show that participants had a high likelihood of being categorized in the correct latent profile, but a relatively small likelihood of being incorrectly categorized. These results further support a three-profile solution.

The estimated mean level of (a) locus, (b) stability, (c) personal control, and (d) other control for each of these three latent profiles is shown in Figure 1. As seen here, the first—and smallest (i.e., 18.4% of the sample)—latent profile was comprised of those who saw the underlying cause of poverty to be (a) outside of the person ($M = 1.85$, $SE = .$

10), (b) relatively stable (M = 3.29, SE = .17), (c) largely uncontrollable by the person (M = 2.49, SE = .13), yet (d) controllable by others (M = 5.28, SE = .16). Given the tolerant nature of this pattern, this latent profile was labelled *Sympathetic*. The second latent profile (i.e., 61.6% of the sample) consisted of those who took a moderate stance on each of the causal dimensions. Participants in this profile felt that poverty was due to factors that were (a) moderately within the person (M = 3.56, SE = .10), (b) somewhat stable (M = 2.98, SE = .08), and partly controllable by (c) the self (M = 4.17, SE = .11) and (d) others (M = 4.35, SE = .07). Therefore, this latent profile was labelled *Moderate*. Finally, the third latent profile (i.e., 20.0% of the sample) consisted of those who felt that the cause of poverty (a) resided within the person (M = 5.03, SE = .22), (b) was fairly stable (M = 2.55, SE = .15), (c) was mainly within the person's control (M = 5.49, SE = .16), and (d) was controllable by others (M = 4.07, SE = .17). Because this pattern was mainly a mirror image of the *Sympathetic* profile, it was labelled the *Unsympathetic* latent profile.

Distal correlates of latent profiles

After identifying a model that best explained the co-variation between the indicator variables, distal covariates of these latent profiles were examined. Because the latent profiles differed most by whether they believed that poverty was internally (vs. externally) caused, participants' latent profile membership was predicted relative to the *Sympathetic* profile (i.e., the profile whose estimated mean level attribution for the locus dimension was lowest in the sample). As such, the following multinomial logistic regression predicts the likelihood that a participant belonged to the given latent profile relative to the *Sympathetic* profile. Results from these analyses are presented in Table 4.

Unsympathetic vs. Sympathetic. Consistent with research on ideological differences in attributions for poverty (Weiner et al., 2011; Zucker & Weiner, 1993),

results showed that conservatism positively correlated with belonging to the *Unsympathetic* (vs. *Sympathetic*) profile (*B* = 1.03, *SE* = .26, *p* < .001). In other words, the more participants' identified as conservative, the less likely they were to belong to the *Sympathetic* latent profile. Likewise, participants' level of system justification had an independent (and positive) relationship with belonging to the *Unsympathetic* (vs. *Sympathetic*) profile (*B* = 0.91, *SE* = .32, *p* = .004)—a finding that indicates that people's tendency to justify the system increased their likelihood of adopting a response pattern indifferent to the poor. Finally, there was a trend for minorities to be less likely than New Zealand Europeans to belong to the *Unsympathetic* (vs. *Sympathetic*) profile (*B* = -0.86, *SE* = .52, *p* = .093). Age and sex, however, were unassociated with participants' membership in the *Unsympathetic* (vs. *Sympathetic*) profile.

   Moderate vs. Sympathetic. Whereas multiple systematic differences were observed between those in the *Unsympathetic* and *Sympathetic* profiles, analyses of the covariates of membership in the *Moderate* (vs. *Sympathetic*) profile only identified one such difference. Namely, levels of conservatism were positively associated with belonging to the *Moderate* (vs. *Sympathetic*) profile (*B* = 0.80, *SE* = .21, *p* < .001). The corresponding odds ratio shows that, for every one unit increase in conservatism, the odds that participants belonged in the *Moderate* (vs. *Sympathetic*) profile more than doubled (i.e., odds ratio = 2.22). Thus, people's ideological tendencies once again correlated with their underlying beliefs about the causes of poverty.

Distal outcomes of latent profiles

   As a final assessment of the validity of a three-profile model, participants' most likely latent profile membership was used to predict important attributional outcomes. Specifically, Lanza , Tan, and Bray's (2013) distal three-step approach was used to predict participants' (a) anger toward the poor, (b) sympathy for the poor, (c) willingness

to *personally* help the poor, and (d) support for *others* helping the poor as a function of their most likely latent profile membership. This approach implements a series of χ^2 tests to examine mean-level differences between the latent profiles for each of the given distal outcomes *after* (a) the latent profiles have been estimated and (b) participants have been assigned to the latent profile to which they most likely belong. Similar to the three-step approach where covariates predict people's membership in latent profiles, the distal three-step approach estimates the measurement and structural models separately, thereby preventing the distal outcomes from influencing the estimation of the latent profiles. The results of these analyses are displayed in Table 5.

Anger toward the poor. As expected, an omnibus χ^2 test indicated that mean levels of anger toward the poor varied across the three profiles ($\chi^2(2) = 145.99$, $p < .001$). Indeed, the results displayed in Table 5 show that participants whose most likely membership was in the *Sympathetic* profile were less angry towards the poor ($M = 1.67$, $SE = .10$) than participants in either the (a) *Moderate* ($M = 2.54$, $SE = .09$; $\chi^2(1) = 42.58$, $p < .001$) or (b) *Unsympathetic* ($M = 3.71$, $SE = .14$; $\chi^2(1) = 144.81$, $p < .001$) profiles. Similarly, those in the *Moderate* profile expressed less anger towards the poor than did participants in the *Sympathetic* profile ($\chi^2(1) = 53.10$, $p < .001$). Thus, participants' anger toward the poor increased as a function of their distance from the *Sympathetic* response pattern.

Sympathy for the poor. Consistent with the results for participants' anger toward the poor, participants' mean levels of sympathy for the poor varied across the latent profiles ($\chi^2(2) = 26.66$, $p < .001$). Specifically, paired contrasts between the latent profiles showed that participants whose most likely membership was in the *Sympathetic* latent profile expressed more sympathy for the poor than did participants whose most likely membership was in the *Moderate* latent profile ($M = 5.79$, $SE = .11$ vs. $M = 5.42$, $SE = .$

07, respectively; $\chi^2(1) = 8.20$, $p = .004$). Likewise, participants in the *Sympathetic* latent profile had more sympathy for the poor than did participants in the *Unsympathetic* latent profile ($M = 4.84$, $SE = .15$; $\chi^2(1) = 26.50$, $p < .001$). Finally, participants in the *Moderate* latent profile expressed more sympathy for the poor than did participants in the *Unsympathetic* latent profile ($\chi^2(1) = 12.35$, $p < .001$).

      Willingness to personally help the poor. Given the systematic differences across the profiles in terms of people's feelings towards the poor, one would expect that participants' membership in the distinct latent profiles would also predict their intentions to help those in need (see Schmidt & Weiner, 1988; Weiner, 1980; Weiner et al., 2011). Indeed, an omnibus χ^2 test indicated that participants' willingness to *personally* help the poor varied by their most likely latent profile membership ($\chi^2(2) = 49.55$, $p < .001$). Paired contrasts showed that those in the *Sympathetic* profile were more willing to personally help the poor ($M = 6.03$, $SE = .10$) than participants in either the (a) *Moderate* ($M = 5.32$, $SE = .08$; $\chi^2(1) = 32.06$, $p < .001$) or (b) *Unsympathetic* ($M = 4.94$, $SE = .14$; $\chi^2(1) = 39.54$, $p < .001$) latent profiles. Participants in the *Moderate* latent profile were, in turn, more willing to personally help the poor than were those in the *Unsympathetic* latent profile ($\chi^2(1) = 5.56$, $p = .018$). Thus, the further away participants were from a *Sympathetic* response pattern, the less willing they were to personally help those in need.

      Support for others helping the poor. As a final validation of the three-profile model, differences in people's support for others helping the poor were assessed. Consistent with the finding that beliefs about the causes of stigma affect people's willingness to assist those in need (Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Schmidt & Weiner, 1988; Weiner, 1985; Weiner et al., 2011), an omnibus χ^2 test of participants' support for *others* helping the poor varied as a function of their most likely latent profile membership ($\chi^2(2) = 97.98$, $p < .001$). Once again, paired contrasts

indicated that participants' support for others helping the poor decreased the further they were from a *Sympathetic* latent response profile. Specifically, participants whose most likely membership was in the *Sympathetic* latent profile expressed more support for others helping the poor (M = 5.76, SE = .12) than did participants in either the (a) *Moderate* (M = 4.98, SE = .08; χ^2(1) = 30.05, p < .001) or (b) *Unsympathetic* (M = 3.94, SE = .14; χ^2(1) = 97.98, p < .001) profiles. Likewise, those in the *Moderate* latent profile felt that others should help the poor more than did those in the *Unsympathetic* latent profile (χ^2(1) = 40.66, p < .001).

Discussion

Though there are many plausible explanations for poverty, these attributions can be grouped in accordance with three general themes: (a) individual, (b) society, or (c) fate (see Bullock et al., 2003; Feather, 1974; Furnham, 1982b; Zucker & Weiner, 1993). Weiner and colleagues (2011), however, note that there are important differences *within* these broad groupings that may obscure the relationship between attributions and relevant outcomes. For example, attributing poverty to substance abuse versus a debilitating illness will likely elicit distinct responses *despite* the fact that both causes are located within the person. As such, Weiner and colleagues propose an alternative taxonomy whereby beliefs about poverty are classified in accordance with four causal dimensions: (a) locus, (b) stability, (c) personal control, and (d) other control.

The current study built upon Weiner and colleagues' (2011) framework by taking a *person-centred* approach that identifies distinct response patterns underlying people's beliefs about poverty. Specifically, the current study examined the possibility that there are distinct subgroups of people who hold similar beliefs about the extent to which poverty is caused by factors that (a) exist within (vs. outside) the person, (b) are enduring (vs. short-lived), and are controllable (vs. uncontrollable) by either (c) the self or (d)

others. Assuming that distinct responses did exist, an additional aim of this research was to examine the antecedents and consequences of people's membership in these latent profiles. Such an approach provides a novel contribution to the attribution literature by (a) identifying different subtypes of people who share similar response patterns and (b) using theoretically-related constructs to validate the existence of these latent profiles.

Inspection of the estimated means for each of the latent profiles identified indicated that there were three latent profiles underlying people's beliefs about the causes of poverty. Specifically, approximately 1/5th of participants viewed poverty through a sympathetic lens and believed that it is caused by factors that are neither located within the poor, nor under the personal control of those in need. Participants in this profile also thought that the cause of poverty was controllable by others and fairly stable across time. This *Sympathetic* profile was contrasted by another 1/5th of the sample who viewed the cause of poverty as residing within the person and under the poor's control, though this *Unsympathetic* profile also believed that poverty was controllable by others and moderately stable. The rest of the sample (i.e., 3/5th of participants) belonged to a *Moderate* profile whose beliefs about the causes of poverty fell in between those in the *Sympathetic* and *Unsympathetic* profiles.

In addition to identifying distinct response patterns underlying participants' beliefs about the causes of poverty, the current study showed that these latent profiles had distinct antecedents and consequences. Participants who belonged to the *Sympathetic* latent profile were less conservative and lower on system justification than their counterparts in the *Unsympathetic* profile. In turn, membership in the *Sympathetic* latent profile was associated with more sympathy and less anger towards those in need, as well as a greater willingness to personally help—and support others helping—the poor, relative to participants in both the *Moderate* and *Unsympathetic* profiles. These correlates

validate the utility of these latent profiles and clarify how different beliefs about the causes of poverty cohere *within* the same person.

The finding that both conservatism and system justification were *unique* predictors of people's latent profile membership has important implications for the field's understanding of these two constructs. Specifically, the results from the current study show that conservatism is a slightly stronger predictor of people's latent profile membership than system justification. Whereas a one unit increase in system justification increased the likelihood that participants belonged to the *Unsympathetic* (vs. *Sympathetic*) profile by 2.48 times, a similar increase in conservatism increased the likelihood that participants belonged to the *Unsympathetic* (vs. *Sympathetic*) and *Moderate* (vs. *Sympathetic*) profiles by 2.81 and 2.22 times, respectively. As such, people's level of conservatism may be a more proximal predictor of their latent profile membership than their levels of system justification. Such an interpretation is consistent with the view that conservatism is a motivated belief that people adopt to meet their existential, ideological, and relational needs (see Jost, Federico, & Napier, 2009; Jost et al., 2003)

Results demonstrating the effects of participants' membership in the different latent profiles supports Weiner and colleagues' (2011) argument that causal beliefs have important implications for how people respond to those in need. Specifically, the current study showed that those in the *Sympathetic* profile—a response pattern marked by the belief that poverty resides outside the person and is uncontrollable by the poor—expressed more sympathy, less anger, and were more willing to personally help the poor than those in the remaining profiles. These findings extend past research by showing that *within*-person response patterns also correspond with people's reactions to the poor. That is, rather than taking a *variable*-centred approach that examines the relationship between

variables, the current study took a *person*-centred approach and identified distinct subsets of people who share similar beliefs about each of the four causal dimensions of poverty.

Strengths, Limitations, and Future Directions

A major strength of the current study is its ability to validate the identified latent profiles with both (a) antecedents and (b) distal outcomes. Specifically, if the latent profiles identified in this study reflect meaningful response patterns, then the unique ways that people explain poverty should also correspond with their background characteristics and subsequent reactions to the poor. Accordingly, results showed that people's membership in each of the latent profiles had distinct antecedents and consequences. Importantly, these relationships closely corresponded with past research on attributions for poverty (e.g., Bullock et al., 2003; Furnham, 1982b; Shirazi & Biel, 2005; Zucker & Weiner, 1993). Such findings offer critical validations of the profiles identified and increase confidence in the results produced in the current study.

Another strength of the current study is its use of a genotypic (rather than phenotypic) assessment of the causes of poverty (see Weiner et al., 2011). That is, instead of examining people's beliefs about specific idiosyncratic causes of poverty, the current study examined the underlying causal dimensions associated with these beliefs. Such a general approach provides a wide theoretical scope from which future research can examine distinct types of outcomes. Indeed, Weiner's (1995, 2006) general attributional framework has been applied to a number of different domains including (a) stigma (Weiner et al., 1988), (b) achievement (Forsyth & McMillan, 1981), and even (c) collective action (Walker, Wong, & Kretzschmar, 2002). Therefore, an exciting direction for future research would be to assess the extent to which the latent profiles identified in the current study extend to other domains relevant to attribution theory.

Although the current study examined the deep structure underlying people's beliefs about poverty, it is possible that different types of response patterns will emerge for different perceived causes of poverty. Specifically, in the current study, people's general beliefs about the underlying causes of poverty were assessed. It is possible, however, that distinct response patterns would emerge for different reasons for why someone is in financial need. Responses to someone who is poor as a result of a physical handicap may elicit response profiles that are distinct from those elicited by poverty due to a person's unwillingness to work. Thus, future research should examine the impact that changes in the phenotypic causes of poverty affect the underlying response patterns identified in the current study.

Another important direction for further research is to examine the extent to which membership in these latent profiles changes (or remains stable) over time. Specifically, it is likely that certain life experiences and/or developmental changes affect how people evaluate poverty. Indeed, research shows that people who have personal experiences with being poor tend to be more supportive of policies aimed addressing poverty than are people who are of high SES (Hastie, 2010). As such, identifying the factors that affect the stability of people's latent profile membership—a major aim of latent transition analysis (see Collins & Lanza, 2010)—will help unpack the complexity of people's beliefs about the underlying causes of poverty.

Finally, the results from the current study have important implications for the framing of the welfare debate. Specifically, analyses of the proportion of people falling into each of the latent profiles showed that more than half of the sample took a moderate stance on the underlying causes of poverty. Such a finding is particularly important as it shows that, rather than having an extremely polarized public (see Abramowitz & Saunders, 2008; Layman & Carsey, 2002), most people take a centrist position on

political issues ([see Fiorina, Abrams, & Pope, 2006](#)). As such, people's beliefs about the extent to which poverty is caused by factors that reside within the person and are personally controllable may be relatively malleable—at least more so than it is for those who belong to the *Sympathetic* or *Unsympathetic* response profiles. The malleability in people's beliefs about poverty could therefore be affected by how poverty is framed by policy makers. Future research would be well-advised to examine the effects that policy framing has on people's membership in each of the latent profiles identified in the current study.

Conclusion

A healthy body of research has focused on the causes and consequences of people's beliefs about poverty. The current study built upon this tradition by taking a *person*-centred approach and identifying distinct response patterns underlying these causal beliefs. In doing so, I have shown that people's membership in distinct latent profiles has theoretically-relevant antecedents (i.e., political conservatism and system justification) and affects critical outcomes (e.g., people's willingness to help the poor). Ultimately, these findings highlight the complex ways in which beliefs about the underlying causes of poverty shape people's responses to those in need. By identifying the nature (and prevalence) of these unique frames, it is hoped that the current study brings us closer to realizing Mandela's vision of overcoming the crippling effects of poverty.

References

Abouchedid, K., & Nasser, R. (2002). Attributions of responsibility for poverty among Lebanese and Portuguese university students: A cross-cultural comparison. *Social Behavior and Personality: An International Journal, 30*(1), 25-36. doi: 10.2224/sbp.2002.30.1.25

Abramowitz, A. I., & Saunders, K. L. (2008). Is polarization a myth? *Journal of Politics, 70*(02), 542-555. doi: 10.1017/S0022381608080493

Appelbaum, L. D. (2001). The influence of perceived deservingness on policy decisions regarding aid to the poor. *Political Psychology, 22*(3), 419-442. doi: 10.1111/0162-895X.00248

Asparouhov, T., & Muthén, B. O. (2013). *Auxiliary variables in mixture modeling: 3-step approaches using Mplus* [Online web notes]. Retrieved from http://www.statmodel.com/download/3stepOct28.pdf

Berlin, K. S., Williams, N. A., & Parra, G. R. (in press). An introduction to latent variable mixture modeling (Part 1): Overview and cross-sectional latent class and latent profile analyses. *Journal of Pediatric Psychology*. doi: 10.1093/jpepsy/jst084

Blank, T., & Schmidt, P. (2003). National identity in a united Germany: Nationalism or patriotism? An empirical test with representative data. *Political Psychology, 24*(2), 289-312. doi: 10.1111/0162-895X.00329

Bullock, H. E. (1999). Attributions for poverty: A comparison of middle-class and welfare recipient attitudes. *Journal of Applied Social Psychology, 29*(10), 2059-2082. doi: 10.1111/j.1559-1816.1999.tb02295.x

Bullock, H. E., Williams, W. R., & Limbert, W. M. (2003). Predicting support for welfare policies: The impact of attributions and beliefs about inequality. *Journal of Poverty, 7*(3), 35-56. doi: 10.1300/J134v07n03_03

Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*. Hoboken, New Jersey: John Wiley & Sons, Inc.

Cozzarelli, C., Wilkinson, A. V., & Tagler, M. J. (2001). Attitudes toward the poor and attributions for poverty. *Journal of Social Issues, 57*(2), 207-227. doi: 10.1111/0022-4537.00209

Dooley, P. A. (1995). Perceptions of the onset controllability of AIDS and helping judgments: An attributional analysis. *Journal of Applied Social Psychology, 25*(10), 858-869. doi: 10.1111/j.1559-1816.1995.tb02649.x

Feagin, J. R. (1972). Poverty: We still believe that God helps those who help themselves. *Psychology Today, 6*(6), 101-110.

Feather, N. T. (1974). Explanations of poverty in Australian and American samples: The person, society, or fate? *Australian Journal of Psychology, 26*(3), 199-216. doi: 10.1080/00049537408255231

Fiorina, M. P., Abrams, S. J., & Pope, J. C. (2006). *Culture war? The myth of a polarized America* (2nd ed.). New York, NY: Pearson Longman.

Forsyth, D. R., & McMillan, J. H. (1981). Attributions, affect, and expectations: A test of Weiner's three-dimensional model. *Journal of Educational Psychology, 73*(3), 393-403. doi: 10.1037/0022-0663.73.3.393

Furnham, A. (1982a). The perception of poverty among adolescents. *Journal of Adolescence, 5*(2), 135-147. doi: 10.1016/S0140-1971(82)80042-0

Furnham, A. (1982b). The Protestant work ethic and attitudes towards unemployment. *Journal of Occupational Psychology, 55*(4), 277–285.

Furnham, A. (1982c). Why are the poor always with us? Explanations for poverty in Britain. *British Journal of Social Psychology, 21*(4), 311-322.

Furnham, A., & Gunter, B. (1984). Just world beliefs and attitudes towards the poor. *British Journal of Social Psychology, 23*(3), 265-269.

Goodman, L. A. (2002). Latent class analysis: The empirical study of latent types, latent variables, and latent structures. In J. A. Hagenaars & A. L. McCutcheon (Eds.), *Applied latent class analysis* (pp. 3-55). New York, New York: Cambridge University Press.

Harper, D. J., Wagstaff, G. F., Newton, J. T., & Harrison, K. R. (1990). Lay causal perceptions of third world poverty and the just world theory. *Social Behavior and Personality: An International Journal, 18*(2), 235-238. doi: 10.2224/sbp.1990.18.2.235

Hastie, B. (2010). Linking cause and solution: Predicting support for poverty alleviation proposals. *Australian Psychologist, 45*(1), 16-28. doi: 10.1080/00050060903469008

Hine, D. W., & Montiel, C. J. (1999). Poverty in developing nations: A cross cultural attributional analysis. *European Journal of Social Psychology, 29*(7), 943-959. doi: 10.1002/(SICI)1099-0992(199911)29:7<943::AID-EJSP978>3.0.CO;2-5

Hopkins, D. J. (2009). Partisan reinforcement and the poor: The impact of context on explanations for poverty. *Social Science Quarterly, 90*(3), 744-764. doi: 10.1111/j.1540-6237.2009.00641.x

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55. doi: 10.1080/10705519909540118

Hunt, M. O. (1996). The individual, society, or both? A comparison of Black, Latino, and White beliefs about the causes of poverty. *Social Forces, 75*(1), 293-322. doi: 10.2307/2580766

Jost, J. T., Federico, C. M., & Napier, J. L. (2009). Political ideology: Its structure, functions, and elective affinities. *Annual Review of Psychology, 60*, 307-337. doi: 10.1146/annurev.psych.60.110707.163600

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin, 129*(3), 339-375. doi: 10.1037/0033-2909.129.3.339

Jost, J. T., & Hunyady, O. (2002). The psychology of system justification and the palliative function of ideology. *European Review of Social Psychology, 13*(1), 111-153. doi: 10.1080/10463280240000046

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science, 14*(5), 260-265. doi: 10.1111/j.0963-7214.2005.00377.x

Kay, A. C., & Jost, J. T. (2003). Complementary justice: Effects of "poor but happy" and "poor but honest" stereotype exemplars on system justification and implicit activation of the justice motive. *Journal of Personality and Social Psychology, 85*(5), 823-837. doi: 10.1037/0022-3514.85.5.823

Kessler, R. C., Stein, M. B., & Berglund, P. (1998). Social phobia subtypes in the National Comorbidity Survey. *American Journal of Psychiatry, 155*(5), 613-619.

Kluegel, J. R., & Smith, E. R. (1986). *Beliefs about inequality: Americans' views of what is and what ought to be*. New York, NY: Aldine De Gruyter.

Lanza, S. T., Tan, X., & Bray, B. C. (2013). Latent class analysis with distal outcomes: A flexible model-based approach. *Structural Equation Modeling: A Multidisciplinary Journal, 20*(1), 1-26. doi: 10.1080/10705511.2013.742377

Layman, G. C., & Carsey, T. M. (2002). Party polarization and "conflict extension" in the American electorate. *American Journal of Political Science, 46*(4), 786-802. doi: 10.2307/3088434

Limbert, W. M., & Bullock, H. E. (2009). Framing US redistributive policies: Tough love for poor women and tax cuts for seniors. *Analyses of Social Issues and Public Policy, 9*(1), 57-83. doi: 10.1111/j.1530-2415.2009.01189.x

Lubke, G., & Neale, M. C. (2006). Distinguishing between latent classes and continuous factors: Resolution by maximum likelihood? *Multivariate Behavioral Research, 41*(4), 499-532. doi: 10.1207/s15327906mbr4104_4

McAuley, E., Duncan, T. E., & Russell, D. W. (1992). Measuring causal attributions: The revised causal dimension scale (CDSII). *Personality and Social Psychology Bulletin, 18*(5), 566-573. doi: 10.1177/0146167292185006

McCutcheon, A. L. (2002). Basic concepts and procedures in single- and multiple-group latent class analysis. In J. A. Hagenaars & A. L. McCutcheon (Eds.), *Applied latent class analysis* (pp. 56-85). New York, New York: Cambridge University Press.

Morçöl, G. (1997). Lay explanations for poverty in Turkey and their determinants. *Journal of Social Psychology, 137*(6), 728-738. doi: 10.1080/00224549709595494

Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus user's guide*. Los Angeles, CA: Muthén & Muthén.

Nasser, R. N. (2007). Does subjective class predict the causal attribution for poverty? *Journal of Social Sciences, 3*(4), 197-201. doi: 10.3844/jssp.2007.197.201

Niemela, M. (2008). Perceptions of the causes of poverty in Finland. *Acta Sociologica, 51*(1), 23-40. doi: 10.1177/0001699307086816

Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal, 14*(4), 535-569. doi: 10.1080/10705510701575396

Osborne, D., Sibley, C. G., Smith, H. J., & Huo, Y. J. (2014). Doubling-down on deprivation: Using Latent Class Analysis to test an age-old assumption in relative deprivation theory. *Manuscript submitted for publication*.

Rudolph, U., Roesch, S., Greitemeyer, T., & Weiner, B. (2004). A meta-analytic review of help giving and aggression from an attributional perspective: Contributions to a general theory of motivation. *Cognition & Emotion, 18*(6), 815-848. doi: 10.1080/02699930341000248

Russell, D. (1982). The Causal Dimension Scale: A measure of how individuals perceive causes. *Journal of Personality and Social Psychology, 42*(6), 1137-1145. doi: 10.1037/0022-3514.42.6.1137

Schmidt, G., & Weiner, B. (1988). An attribution-affect-action theory of behavior: Replications of judgments of help-giving. *Personality and Social Psychology Bulletin, 14*(3), 610-621. doi: 10.1177/0146167288143021

Shirazi, R., & Biel, A. (2005). Internal-external causal attributions and perceived government responsibility for need provision: A 14-culture study. *Journal of Cross-Cultural Psychology, 36*(1), 96-116. doi: 10.1177/0022022104271428

Skitka, L. J. (1999). Ideological and attributional boundaries on public compassion: Reactions to individuals and communities affected by a natural disaster. *Personality and Social Psychology Bulletin, 25*(7), 793-808. doi: 10.1177/0146167299025007003

Skitka, L. J., Mullen, E., Griffin, T., Hutchinson, S., & Chamberlin, B. (2002). Dispositions, scripts, or motivated correction? Understanding ideological differences in explanations for social problems. *Journal of Personality and Social Psychology, 83*(2), 470-487. doi: 10.1037//0022-3514.83.2.470

Skitka, L. J., & Tetlock, P. E. (1992). Allocating scarce resources: A contingency model of distributive justice. *Journal of Experimental Social Psychology, 28*(6), 491-522. doi: 10.1016/0022-1031(92)90043-J

Stephenson, S. (2000). Public beliefs in the causes of wealth and poverty and legitimization of inequalities in Russia and Estonia. *Social Justice Research, 13*(2), 83-100. doi: 10.1023/A:1007541722131

Vermunt, J. K. (2010). Latent class modeling with covariates: Two improved three-step approaches. *Political Analysis, 18*(4), 450-469. doi: 10.1093/pan/mpq025

Walker, I., Wong, N. K., & Kretzschmar, K. (2002). Relative deprivation and attribution: From grievance to action. In I. Walker & H. J. Smith (Eds.), *Relative deprivation: Specification, development, and integration* (pp. 288-312). New York, New York: Cambridge University Press.

Weber, C. R., & Federico, C. M. (2013). Moral foundations and heterogeneity in ideological preferences. *Political Psychology, 34*(1), 107-126. doi: 10.1111/j.1467-9221.2012.00922.x

Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology, 71*(1), 3-25. doi: 10.1037/0022-0663.71.1.3

Weiner, B. (1980). A cognitive (attribution)-emotion-action model of motivated behavior: An analysis of judgments of help-giving. *Journal of Personality and Social Psychology, 39*(2), 186-200. doi: 10.1037/0022-3514.39.2.186

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*(4), 548-573. doi: 10.1037/0033-295X.92.4.548

Weiner, B. (1995). *Judgments of responsibility: A foundation for a theory of social conduct*. New York, New York: The Guilford Press.

Weiner, B. (2006). *Social motivation, justice, and the moral emotions: An attributional approach*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.

Weiner, B., Osborne, D., & Rudolph, U. (2011). An attributional analysis of reactions to poverty: The political ideology of the giver and the perceived morality of the receiver. *Personality and Social Psychology Review, 15*(2), 199-213. doi: 10.1177/1088868310387615

Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. *Journal of Personality and Social Psychology, 55*(5), 738-748. doi: 10.1037/0022-3514.55.5.738

Will, J. A. (1993). The dimensions of poverty: Public perceptions of the deserving poor. *Social Science Research, 22*(3), 312-332. doi: 10.1006/ssre.1993.1016

Wollie, C. W. (2009). Causal attributions for poverty among youths in Bahir Dar, Amhara region, Ethiopia. *Journal of Social, Evolutionary, and Cultural Psychology, 3*(3), 251-272.

Zucker, G. S., & Weiner, B. (1993). Conservatism and perceptions of poverty: An attributional analysis. *Journal of Applied Social Psychology, 23*(12), 925-943. doi: 10.1111/j.1559-1816.1993.tb01014.x

Table 1. *Descriptive statistics and bivariate correlations for the variables included in Study 1.*

		1	2	3	4	5	6	7	8	
1.	Age	----								
2.	Sex[a]	-.038	----							
3.	Minority[b]	-.108+	-.030	----						
4.	Conservatism	.018	-.037	.199***	----					
5.	System Justification	-.080	.062	-.020	.230***	----				
6.	Locus	.091	-.092	.077	.347***	.215***	----			
7.	Stability	-.056	-.070	-.077	-.020	.001	-.102+	----		
8.	Personal Control	.029	-.058	.108+	.342***	.173*	.653***	-.318***	----	
9.	Other Control	-.004	-.049	-.040	-.258***	-.253***	-.313***	.090	-.315***	-
10.	Anger	-.080	-.020	.025	.314***	.279***	.465***	-.057	.384***	-.196
11.	Sympathy	.034	.004	.033	-.190**	-.245***	-.243***	.023	-.267***	.245*
12.	Personal Help	.001	.237***	.010	-.195**	-.120*	-.302***	.023	-.222***	.248*
13.	Others Help	.044	.067	.001	-.373***	-.330***	-.367***	.082	-.357***	.341*
	α	----	----	----	.86	.78	.79	.65	.83	.71
	Mean	21.23	0.83	0.47	3.34	3.82	3.54	2.95	4.12	4.47
	SD	4.90	0.37	0.50	1.24	0.90	1.25	1.03	1.23	1.07

ᵇ Minority was dummy-coded (0 = New Zealand European; 1 = minority).

ᶜ Missing values were replaced by the sample mean. Income was then log-transformed. For descriptive purposes, the *Mean* and *Standard Deviation* reported above are in their original units (i.e., NZD).

$^{+}$ p < .10; * p < .05; ** p < .01; *** p < .001

Table 2. *Model fit for the different profile solutions of the LPA from the NZAVS.*

Profiles	Log-likelihood	AIC	BIC	aBIC	Entropy
One Profile	-4186.250	8408.500	8476.047	8418.956	----
Two Profiles	-1872.890	3771.780	3820.563	3779.331	.756
Three Profiles	-1832.605	3701.209	3768.756	3711.665	.779
Four Profiles	-1821.733	3689.465	3775.775	3702.825	.785

Note: AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; aBIC = sample-size adjusted Bayesian Information Criterion.

Table 3. *Average latent profile probabilities for most likely latent profile membership (row) by latent profile (column) among participants*.

		1	2	3
1)	Profile 1 (*Sympathetic*)	**.940**	.060	.000
2)	Profile 2 (*Moderate*)	.033	**.903**	.064
3)	Profile 3 (*Unsympathetic*)	.000	.143	**.857**

Note: Values along the diagonal (highlighted in bold) reflect the average probability that a person estimated to belong to the given latent profile was categorized correctly.

Table 4. *Multinomial logistic regression predicting latent profile membership as a function of distal covariates. Coefficients represent the relative log odds of belonging to the given latent profile versus the Sympathetic latent profile.*

	Unsympathetic (vs. Sympathetic)			Moderate (vs. Sympathetic)		
	B	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio
Age	0.11	0.07	1.11	0.05	0.06	1.06
Sex[a]	-0.72	0.67	0.49	-0.39	0.56	0.68
Minority[b]	0.86[+]	0.52	2.37	-0.01	0.39	0.99
Conservatism	1.03[***]	0.26	2.81	0.80[***]	0.21	2.22
System Justification	0.91[**]	0.32	2.48	0.31	0.22	1.36

[a] Sex was dummy-coded (0 = man; 1 = woman).

[b] Minority was dummy-coded (0 = New Zealand European; 1 = minority).

[+] $p < .10$; [*] $p < .05$; [**] $p < .01$; [***] $p < .001$

Table 5. *Multinomial logistic regression predicting latent profile membership as a function of demographic covariates. Coefficients represent the relative log odds of belonging to the given latent profile versus the Liberal latent profile.*

	Anger		Sympathy		Personally Help	
	M	SE	M	SE	M	SE
Sympathetic	1.67[a]	0.10	5.79[a]	0.11	6.03[a]	0.10
Moderate	2.54[b]	0.09	5.42[b]	0.07	5.32[b]	0.08
Unsympathetic	3.71[c]	0.14	4.84[c]	0.15	4.94[c]	0.14

Note: Means with different subscripts within a given column were significantly different.

Figure 1. *Estimated means for the perceived (a) locus, (b) stability, (c) personal control, and (d) other control of poverty as a function of participants' membership in the*