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A Bitter Pill to Swallow? Patterns of Critical Consciousness and Socioemotional and Academic Well-Being in Early Adolescence

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Abstract

An increasing body of research on critical consciousness explores how youth understand and react to inequality in their social contexts. The operationalization of critical consciousness remains inchoate, however. Developmental psychology traditionally conceptualizes critical consciousness as three components (critical reflection, political efficacy, and critical action), but how levels of these components combine for different youth or relate to outcomes remains unclear. This paper uses latent class analysis to examine how components of critical consciousness pattern together in a sample 448 of marginalized (racial/ethnic minority) youth, and relate to demographic characteristics, socioemotional outcomes, and academic well-being. We identify four classes of critical consciousness components differentiated by their level of critical reflection, beliefs about the fairness of the U.S., and external and internal political efficacy. Ethnicity was related to class membership, but gender and SES were not. Controlling for race/ethnicity, we find differences in cross-sectional measures of depression, academic engagement, academic competence, and grades of youth across these classes and identify socipolitical efficacy as a key predictor of positive youth development. Our findings provide theoretical clarity and practical insight into the complexity of critical consciousness and the combination of components that is most beneficial for positive youth development.

Key words: critical consciousness, system justification, latent class analysis, depression, self-esteem, academic outcomes

Developmental scholarship has long recognized that poverty, discrimination, and other systems of oppression influence youth development (e.g. Cabrera et al., 2013; García Coll et al., 1996). Much of this research, however, has approached youth as passive recipients of the effects of systemic inequality, rather than active agents in the construal and transformation of these structures. Recent scholarship has begun to consider youth interpretations of economic and sociopolitical contexts, and how such understandings predict well-being. One such approach is the growing body of research on critical consciousness, which explores how marginalized youth develop the ability to critically identify inequitable social conditions (critical reflection), feel empowered to change those conditions (sociopolitical efficacy), and engage in action towards that goal (critical action) (Diemer, et al., 2016; Godfrey & Grayman, 2014). Evidence suggests that critical consciousness is beneficial for marginalized youth – leading to better occupational outcomes and improved socioemotional well-being (Diemer et al., 2016). However, previous work has not always carefully delineated or considered each component of critical consciousness separately from the others, resulting in little knowledge of how these components work as an integrated whole, or jointly shape outcomes. There is thus little empirical evidence illustrating how youth display differing levels of the components of critical consciousness, and how different combinations of these components relate to demographic characteristics or youth well-being. The current study takes a person-centered approach to address this gap in knowledge. We identify naturally-occurring profiles of critical consciousness that characterize subgroups of youth and examine cross-sectional associations between these profiles and youth's demographic characteristics, and socioemotional and academic well-being.

Critical Consciousness

Originally conceptualized by Brazilian educator Paulo Freire (1970, 1973), critical consciousness describes the process through which people become critically aware of the social and

historical roots of structures that perpetuate their marginalization, and take action to address this oppression. In recent years, developmental scholars have built on Freire's framework to explore how an awareness of structural inequality and oppression can empower marginalized youth (e.g. youth of color; low-income youth) to change these realities, with positive developmental consequences (e.g., Diemer & Li, 2011; Watts, Griffith & Abdul-Adil, 1999; Watts, Diemer, & Voight, 2011). This scholarship conceptualizes critical consciousness as (1) critical reflection – youths' ability to critically analyze current social realities and recognize how social, economic, and political conditions limit opportunity and perpetuate systemic injustices; (2) sociopolitical efficacy – youths' perceived ability to change these conditions; and (3) critical action – youths' participation in individual or collective action (Diemer & Blustein 2006; Watts et al. 1999).

Critical consciousness has been hailed as an "antidote to oppression" (Freire, 1973; Watts et al. 2011; Watts et al. 1999), and indeed each of the three components of critical consciousness has been associated with key developmental competencies for marginalized youth. For example, greater critical reflection has been linked to more clarity and stability in marginalized youths' vocational goals, interests, talents, and plans to enroll in a four-year college (Diemer & Blustein, 2006; McWhirter & McWhirter, 2016; Olle & Fouad, 2015). Higher sociopolitical efficacy is linked to better occupational outcomes (Diemer & Blustein, 2006) and higher sociopolitical control (similar to sociopolitical efficacy) is associated with reduced anxiety and depression, and improved self-esteem among marginalized adolescents (Christens & Peterson, 2012; Zimmerman, Ramirez-Valles, & Maton, 1999). Finally, critical action, in the form of participation in social and community action, has been shown to predict occupational attainment and job earnings in early adulthood (Diemer, 2009; Diemer et al., 2010). Such work indicates the promise of critical consciousness in improving youth outcomes, but has not always carefully considered how the components of critical

consciousness develop in tandem (or not) and pattern together for different subgroups of youth.

Interconnections among Critical Consciousness Components

Freire (1970, 1973) viewed critical reflection and action as reciprocal processes, whereby critical reflection leads to action, which in turn reinforces and deepens reflection (see also Diemer & Rapa, 2016). Developmental scholars have further proposed that sociopolitical efficacy is needed to transform reflection into action, arguing that critical awareness leads to action only when one feels capable of enacting demonstrable change (Watts et al., 2011). Quantitative developmental scholarship has not played as close attention to delineating and considering these components as theoretical and qualitative work has. When predicting youth outcomes, many studies conceptualize critical consciousness via indicators of only one, or two, components. Many focus too much on critical reflection and too little on critical action. Moreover, few studies explicitly delineate and examine the components as they relate to each other. Some studies have examined associations between two of the three components as part of a larger analytic model (e.g. Diemer & Li, 2011), but only one study to our knowledge explicitly considers how all three of the components of critical consciousness relate to each other (Diemer & Rapa, 2016). They found that critical reflection predicted action, but this link was neither mediated nor moderated by sociopolitical efficacy – measured as youth's interest in, and ability to, understand political issues, and assessments of how responsive governmental actors are to their concerns – among low-SES, African American and Latino 10th graders. Conceptual and qualitative work on critical consciousness emphasizes the dynamic and reciprocal relations between reflection and action (Freire, 1970, 1973; Guishard, 2009; Watts & Hipolito-Delgado, 2015; Watts, Williams, & Jagers, 2003). Empirically modeling how these components work together and co-occur for different groups of youth is needed to advance our understanding of critical consciousness and inform intervention.

Person-Centered Approaches

The current study uses a person-centered approach to identify subgroups of racial/ethnic minority youth endorsing qualitatively different patterns of critical consciousness across its components. We then examine how membership in these different critical consciousness typologies is associated with youth's demographic characteristics and socioemotional and academic well-being. Person-centered approaches are one way to effectively capture complex developmental phenomenon (Sameroff & Mackenzie, 2003) because they conceptualize multiple variables to operate together as an integrated whole within an individual (Sterba & Bauer, 2010) that looks different for different subgroups of youth. These approaches provide a method to quantitatively address the question of how components of critical consciousness co-occur and co-operate: Components of critical consciousness are organized into patterns that characterize the system as a whole and youth can then be classified into subgroups representing these differing patterns or typologies. This is a particularly relevant and effective technique for critical consciousness research. Whereas previous research allows us to ascertain the antecedents and consequences of critical consciousness components in isolation from one other, theory tells us that youth's critical consciousness is simultaneously informed by each of its components acting in reciprocal and reinforcing ways. Person-centered techniques join qualitative work in adding richness to more traditional quantitative approaches by modeling how critical consciousness components pattern together as a coherent whole representing qualitatively distinct typologies of critical consciousness. We may find, for example, some youth who are high in critical reflection but have low levels of efficacy and action. These might represent Watt's and colleagues (2011) armchair activists. We may find, on the other hand, that some youth have high critical reflection and efficacy, but still do not engage in action. This could propel us to rethink our ideas about how these components do

reciprocally support each other and what is needed to foster action. These typologies are not only theoretically interesting, but may be associated with youth's demographic characteristics and well-being in ways that elaborate scholarship and inform intervention. Imagine we find that our armchair activists evidence worse mental health than youth with other patterns of reflection, efficacy and action (see Christens, Collura, & Tahir; 2013 for an empirical example of such a situation within empowerment theory). This could illuminate the importance of fostering efficacy and action alongside reflection in sociopolitical education efforts (Watts & Hipolito-Delgado, 2015).

Although not yet applied directly in critical consciousness scholarship, person-centered approaches have already proved useful in related developmental realms such as civic engagement, activism, and empowerment. Voight & Torney-Purta (2013) used latent class analysis (LCA) to identify three classes, or typologies, of civic engagement ("Actors", "Sympathizers" and "Moderates") in urban middle schoolers based on their responses to questions about their civic behaviors and attitudes. Sympathizers had the most positive academic outcomes, followed by Actors and then Moderates. Christens, et al. (2013) also used LCA to examine patterns of cognitive and sociopolitical control components of empowerment theory. They found four classes that varied with respect to their knowledge of social power in community change processes and feelings of sociopolitical control: people who were aware of social power and had high sociopolitical control ("Critical and Hopeful"); those who were aware of social power but had low sociopolitical control ("Critical but Alienated"); those who were less aware of social power and high in sociopolitical control ("Uncritical but Hopeful"); and those less aware of social power and low in sociopolitical control ("Uncritical and Alienated"). The Uncritical and Alienated group had the lowest mental well-being scores. These studies join earlier research using other classification techniques to examine empirical patterns of civic and organizational involvement among youth (e.g. Finlay,

Flanagan & Wray-Lake, 2011; Pancer et al., 2007).

The work described above demonstrates the relevance of person-centered approaches to understanding patterns of youth activism, empowerment, and engagement, and their associations with developmental competencies. Critical consciousness research can also benefit from such an approach. We use person-centered techniques to identify typologies of critical consciousness, and then examine how youth with different patterns of critical consciousness components vary in their demographic characteristics and well-being. All youth in our sample experience marginalization due to their race/ethnicity, but they come from multiple racial/ethnic groups and vary along other axes of oppression and privilege that may influence their critical consciousness development (Godfrey & Burson, in press). We therefore examine whether membership in critical consciousness classes differs by youths' racial/ethnic group membership, gender, and socioeconomic status.

We then replicate and expand previous research by examining whether socioemotional and academic well-being differ by critical consciousness class membership. The most robust evidence from previous scholarship suggests that individual components of critical consciousness are associated with socioemotional and occupational outcomes. However, fewer studies have examined whether critical consciousness is associated with *academic* outcomes, and no study we know of has considered how different *patterns* of critical consciousness relate to youth outcomes. We explore differences in depressive symptoms and self-esteem across classes of critical consciousness, thereby extending previous research linking sociopolitical efficacy component of critical consciousness with marginalized youth's socioemotional outcomes (Christens & Peterson, 2012; Zimmerman et al., 1999). We also examine whether academic outcomes vary across critical consciousness classes. Burgeoning evidence suggests that critical consciousness may indeed factor in to youth's academic success (O'Connor, 1997; Ramos-Zayas, 2003). In qualitative analyses, for example, O'Connor

finds that Black youth who are both critically reflective and express confidence in their ability to

make change experience academic success – indeed a recognition of the need for struggle is what

distinguished critically reflective youth who strived in school from critically reflective youth who

disengaged from school. Evidence also suggests that pedagogies that critically analyze inequality

and discrimination improve academic achievement among marginalized youth (Cabrera, Milem,

Jaquette & Marx, 2014) and that buying into ideologies representing the current status quo as fair is

associated with worse academic outcomes, including lower grades, less academic persistence, and

worse classroom behavioral regulation (Godfrey, Santos & Burson, 2017; O'Brien, Mars &

Eccleston, 2011; Sellers, Chavous & Cooke, 1998; Smalls, White, Chavous & Sellers, 2007).

The Current Study

        In sum, the current study employs person-centered techniques (LCA) to examine two

research questions. First, what patterns of critical reflection, sociopolitical efficacy, and critical

action characterize critical consciousness in a sample of marginalized early adolescents? Second,

how do early adolescents in different critical consciousness classes differ in their demographic

characteristics, and socioemotional and academic well-being? We focus on early adolescence

because we believe it to be an especially interesting and critical time in the formation of critical

consciousness. Rapid cognitive development in this period enables early adolescents to think

abstractly about larger societal systems and their place in them for the first time, and to develop a

coherent understanding of political and social systems (Flanagan, Cumsille, Gill & Gallay, 2007;

Segilman, 2012; 2013). Early adolescence is also marked by an acceleration of racial/ethnic identity

development (Quintana, 2007) and the ability to apprehend both institutional and interpersonal

discrimination (Quintana, 2008). Thus, it represents an important time period to examine how

critical consciousness develops and craft interventions to foster youth well-being and activism.

Method

Data and Sample

Data for this study come from the Early Adolescent Cohort (EAC) study of adolescents'

experiences across neighborhood, family, and school contexts. Two cohorts of middle school

students were recruited in sixth grade (in the 2004-2005 and 2005-2006 school years) and followed

until 11th grade. Participants were recruited from six New York City public middle schools serving

sixth to eighth graders. Schools had aggregate scores between the 20th and 80th percentile on

citywide math and reading tests and were racially, ethnically, and socioeconomically diverse.

A team of racially diverse research assistants visited all sixth-grade classrooms in each

middle school to recruit students. Study description and parental consent forms were distributed

through classrooms in English, Spanish, Cantonese, and Mandarin. Students were offered small

incentives (e.g. a pen) for returning the forms, regardless of whether permission to participate was

granted. Seventy-seven percent of recruited adolescents returned parental consent forms, and 78

percent of these had parental consent. Self-report paper and pencil surveys were administered

during class periods. Student assent was obtained prior to survey administration and students

received a $5 gift certificate. Additional design, recruitment, and data collection details are

described by Hughes, Hagelskamp, Way, and Foust (2009).

The present study focuses on racial/ethnic minority adolescents who completed survey

measures in the seventh grade. The research ethics committee at New York University deemed this

study exempt from review as it involves secondary analysis of deidentified data. We focused on the

seventh-grade wave of data collection because of the relevance of critical consciousness during the

early adolescent developmental period, and because it was the only wave in which the full set of

critical consciousness items was administered. Our theoretical framework centers on marginalized

youth, thus we excluded White youth from our analyses (c.f. other work on critical consciousness,

such as Diemer & Li, 2011), focusing instead on youth who experience societal marginalization due

to their race/ethnicity (additional analyses examine differences by SES and gender). Due to their

low sample size ($n = 13$), we also excluded Mexican youth from our sample. The final analytic

sample ($N = 448$) was 30% African-American, 26% Chinese, 23% Dominican, 14% Puerto Rican,

and 7% other racial/ethnic minority. About half of youth (53%) identified as girls.

Measures

      Critical consciousness indicators. We estimate latent classes using six indicators (five

multi-item scales and 1 single item) (see Table 1 for a breakdown and Table 2 for descriptive

statistics and correlations). Below we provide more information about the particular scales used to

measure each component of critical consciousness and their psychometric properties. Two

considerations informed our decision to use scales as indicators of latent classes (rather than the

individual items comprising them). First, our theoretical interest is to understand how the

components of critical consciousness pattern together and differentiate subgroups of youth. These

components, we believe are better represented by multi-item scales that capture the underlying

construct with more complexity and nuance than single items can. Second, the results of latent class

analysis at the item level supported this conclusion: They revealed that the individual items

comprising each of the scales did not differentially differentiate the classes, and instead patterned

together. This approach also increased parsimony and reduced model complexity.

      Critical reflection. Three scales are used to capture youth's critical reflection: (1) economic

critical reflection; (2) racial/ethnic critical reflection and (3) belief about the fairness of the

American system. Economic critical reflection was assessed using four items ($\alpha = .73$) on a (1)

strongly disagree to (5) *strongly agree* scale tapping into youth's awareness economic inequality

and lack of opportunity. A sample item is: "If your family doesn't have a lot of money, you will always have to work harder than others to be successful." Racial/ethnic critical reflection was measured via the average of two items tapping perceptions of racial/ethnic inequality: "People of my race have to work harder than other people to be successful" and "People of my race do not have same opportunities as others to go to college" (r=.66) on a (1) *strongly disagree* to (5) *strongly agree* scale. The economic and racial/ethnic critical reflection measures represent the perceived inequality aspect of critical reflection as articulated in recent measurement development (Diemer, Rapa, Park & Perry, 2014) and used by Diemer and Rapa (2016). The distinction between economic and racial/ethnic critical reflection was indicated by the results of factor analyses indicating they represented two distinct constructs (see Table 1). It also reflects recent conceptual thinking about the importance of assessing youth's reflection about multiple systems of oppression/privilege (Godfrey & Burson, in press). Drawing from social psychological work on system justification theory (Jost & Banaji, 1994), the third scale represents youth's beliefs about meritocracy and fairness in U.S. society. These beliefs were measured via a three-item scale (α = .72), adapted from Kay and Jost (2003). A sample item is: "In the U.S., everyone has an equal chance to be successful;" responses ranged from (1) *strongly disagree* to (4) *strongly agree*. This construct is important to include because it captures the motivation to justify societal inequalities by attributing them to individual or group shortcomings rather than the system. Although youth might perceive group-based inequality, they may not find it unfair if they believe it is due to group differences (in effort or talent), rather than structural problems (see also Godfrey & Wolf, 2016).

  Sociopolitical efficacy. Measures of sociopolitical efficacy included both external political efficacy and internal political efficacy. External political efficacy was captured via a five-item scale (α = .79 adapted from Flanagan, Syvertsen, & Stout, 2007), assessing beliefs about the

responsiveness of governmental actors to the wants and needs of the people. A sample item is "The government doesn't care about ordinary people like us (reverse coded)." Responses ranged from (1) *strongly disagree* to (5) *strongly agree.* Internal political efficacy was measured using a single item capturing youth's own feelings of efficacy around enacting societal change (Flanagan et al., 2007): "People have the ability to change the government if they don't like what it is doing." Responses ranged from (1) *strongly disagree* to (4) *strongly agree.*

   Critical action. Last, we include a critical action scale representing the importance youth place on future action on behalf of the community. A three-item scale adapted from national surveys of youth development ($\alpha = .76$) measured youth's commitment to future action to foster social justice on a scale from (1) *strongly disagree* to (4) *strongly agree.* Items included: "It is important to me to work to make my schools and neighborhoods better places to live." Although this measure does not capture actual action, it is a useful proxy in early adolescence when youth's ability to take part in action is more limited. These items have been used in other critical consciousness studies to assess critical action (e.g. Diemer et al., 2010).

   Socioemotional well-being. The 10-item Children's Depression Inventory (Kovacs, 1992) was used to assess youth's depressive symptoms ($\alpha = .76$). Items included: "I am sad" and "I hate myself". Responses ranged from (0) *once in a while* to (2) *many times*. The Rosenberg Self-Esteem scale (Rosenberg, 1965) was used to measure feelings of self-worth with items such as "I am satisfied with myself" ($\alpha = .86$). Responses on this 10-item Likert-type scale ranged from (1) *strongly disagree* to (4) *strongly agree.*

   Academic well-being. Youth's engagement in class was measured with a 20 item, five-point Likert type scale ($\alpha = .88$; Wellborn, 1991). Sample items include: "When we work on something in class, I get involved" and "I pay attention in class". Responses ranged from (0) *never*

to (4) *all the time.* Youths' perceptions of their academic efficacy were measured using a six-item scale (α = .76; adapted from Muris, 2001). Sample items included: "How good are you at getting the teacher to help you when you get stuck on school work." Students reponded to items on a five-point scale ranging from (1) *not at all good* to (5) *extremely good*. Academic competence was measured via six items from the cognitive competence subscale of the Perceived Competence Scale for Children (Harter, 1982). Youth indicated agreement and identification with statements such as "Some kids feel that they are very good at their school work BUT other kids worry about whether they can do the school work assigned to them." Youth identified which kid they were more like and whether this description was really true or sort of true of them. These responses were recoded onto a (1) to (4) scale, with higher values representing higher competence (α = .76). Grades were assessed via one item asking youth what grades they mostly got on their last report card from (1) *mostly A's (100-90)* to (9) *Mostly F's (59 or below).*

Demographic characteristics. Finally, data were collected on a set of demographic characteristics representing different axes of marginalization. Youths' racial/ethnic background and gender (1= female) were assessed through self-report. SES was measured by mother's education level. Following Diemer & Rapa (2015), youth whose mothers had not finished college were classified as low SES (N=178), and those whose mothers held a Bachelor's Degree or higher were classified as high SES (N=169).

Analytic Strategy

A latent class analysis (LCA) was used to model subgroups of youth with different patterns of endorsement of critical consciousness component indicators in our sample in Mplus 7 (Lanza, Collins, Lemmon, & Schafer, 2007; Muthén & Muthén, 2012). Analyses proceeded in three stages.

In the first stage, we estimated a series of models with differing numbers of latent classes to

identify the class structure that best characterizes critical consciousness in our sample. This stage identifies the number of classes and the patterns of endorsement that characterize each class. As described above and in Table 1, six indicators of critical consciousness were used: (1) economic critical reflection scale, (2) racial critical reflection scale, (3) system fairness scale, (4) external political efficacy scale, (5) internal political efficacy item and (6) critical action scale. To create indicators out of these scales, we dichotomized each one at their median, effectively creating binary high/low indicators. For sensitivity check purposes, we also transformed each measure into 4-point ordinal indicators based on quartiles to create indicators akin to the original response scale of items (c.f. Christens et al., 2013). We modeled the LCA using both sets of indicators. The optimal class structure was determined by fitting a series of models with different numbers of classes and comparing the fit of each model. Goodness-of-fit (Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC)) and sample-size adjusted BIC were assessed. Lower AIC and BIC values indicate better model fit. Based on recent recommendations, we also used the bootstrap likelihood ratio test (BLRT), which evaluates whether a k class model fits significantly better than a k-1 class model using bootstrap samples to estimate the distribution of the log likelihood difference test statistic (Nylund, Asparouhuv & Muthen, 2007). We focused on the sample-size adjusted BIC and BLRT, which are the most reliable indicators of model fit under similar modeling conditions as ours (Nylund et al., 2007). After determining the optimal class structure, classes were described based on their response patterns to each indicator.

In the second stage, youth's demographic characteristics were added as predictors of class membership, where latent class membership was modeled as multinomial logistic regression. To prevent demographic characteristics from influencing the definition of the classes, threshold values for each indicator were fixed to their estimated values in Stage 1.

Finally, in Stage 3, we examined whether youth's socioemotional and academic outcomes varied across latent classes. To do so, each outcome was included individually in the model. Means were constrained to be equal for each class compared to each other class and evaluated using the Wald test of parameter constraints (e.g. https://www.statmodel.com/download/meantest2.pdf). Threshold values for each indicator were fixed to their estimated values in Stage 1 so that these distal outcomes did not influence the definition of the classes themselves and demographics found to be significant predictors of classes in Stage 2 were modeled as covariates. This three-step latent approach is preferred over a classify and analyze approach, in which individuals are first assigned their most likely class membership and then relationships between class assignment and demographic characteristics/outcomes are examined, because it takes into account classification uncertainty in latent class membership (Collins & Lanza, 2010). Mplus employs a full-information maximum likelihood (FIML) approach to missing data, using information from individuals with complete data and partially complete data. Missing data ranged from 2-8% across items.

Results

Critical Consciousness Latent Class Structure (Stage 1)

As mentioned above, we conducted the LCA first with dichotomous indicators of critical consciousness components, and then, as a sensitivity check on that specification, with ordinal indicators. Fit statistics for the latent class models with dichotomous indicators (presented in Table 2) suggest that the 3-class model was the best solution for the data (lowest sample-size adjusted BIC and significant BLRT) with the 4-class model a close second. The LCA with ordinal indicators had some difficult converging due to the small sample size and data sparseness, but fit statistics suggested the 4-class model was the best solution for the data. Given this discrepancy, we interpreted both the 3-class and 4-class solutions across the analyses with dichotomous and ordinal

indicators. The 4-class solution was the most conceptually meaningful and consistent across the two indicator specifications. We therefore chose to focus on interpretations and further analyses using the 4-class model with dichotomous indicators as this was the most stable specification that still represented the deep structure of the data well.[1] The entropy for the four-class solution was .70, which suggested decent separation between the classes.

Overall, classes had similar probabilities of endorsing critical action, but varied across all other critical consciousness indicators. Containing about 30% of youth (based on estimated posterior probabilities), Class 1 "acritical but partially discontented and inefficacious" was characterized by low levels of critical reflection but also the lowest levels of beliefs about U.S. fairness, internal political efficacy and commitment to action. However, these youth were mid to high on external political efficacy. On the whole, although these youth are not particularly critical when it comes to racial and economic inequality, they were discontented with the system's lack of fairness – while still optimistic about the government's responsiveness to their needs. They also felt pessimistic about their own ability to affect change in the government. Class 2 "acritical, contented and efficacious", which comprised approximately 27% of youth, was characterized by low economic and (particularly) racial critical reflection paired with high beliefs about U.S. fairness, high external and internal political efficacy, and mid-level commitment to action. In other words, these youth do not perceive racial and economic inequities, believe the system to be fair and responsive and feel confident in their ability to effect change in it. Class 3 "critical but contented and efficacious" was the smallest class, comprising 11% of the students. Youth in this class had high critical reflection on both economic and racial inequality, mid-level beliefs about American

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[1] The 3-class solution was substantively similar to the 4-class solution, with the exception that the two critically-reflective classes in the 4-class solution (Classes 3 and 4) were combined into a single class with mid-high critical reflection, mid-low beliefs about U.S. Fairness and external political efficacy and mid-high internal political efficacy.

fairness, high external political efficacy, mid to high internal political efficacy, and mid-level commitment to action. On the whole, these youth were critical of the system, but generally felt content with the fairness of the system and confident in the responsiveness of government to their needs. They also felt optimistic about their ability to change the status quo. Youth in Class 4 "critical and discontented but efficacious", approximately 33% of the sample, were characterized by mid-to-high racial and economic critical reflection, mid-to-low beliefs about U.S. fairness, very low external political efficacy, mid-to-high internal political efficacy, mid-to-low commitment to action. Youth in Class 4 are relatively critical about the system, but while they believe in their ability to affect change, they do not think the system is fair or that government is responsive to them.

Demographic Comparisons across Critical Consciousness Classes (Stage 2)

By fixing the indicators thresholds for each class we were able to estimate demographic predictors of latent critical consciousness class membership via a multinomial logistic regression. We varied the reference class used in these multinomial regressions in order to compare each class to each other class. Results revealed no significant differences in class membership by gender or SES. However, we did find significant differences in class membership by race/ethnicity (see Table 3). We estimated the regression first with African American youth as the reference category, and then to compare the other racial/ethnic groups to each other, with Chinese and then Dominican youth as the reference category. Compared to African American youth, Dominican and Chinese youth were significantly less likely to be in Class 1 (acritical but partially discontented and inefficacious) and Class 3 (critical but contented and efficacious) than in Class 2 (acritical, contented and efficacious). Chinese youth were also significantly less likely to be in Class 4 (critical and discontented but efficacious) than in Class 2 (acritical, contented and efficacious). Compared to Chinese youth, Puerto Rican youth were significantly more likely to be in Class 1 (acritical but

partially discontented and inefficacious) and Class 4 (critical and discontented but efficacious) than

in Class 2 (acritical, contented and efficacious). Dominican youth were also significantly more

likely to be in Class 4 (critical and discontented but efficacious) than in Class 2 (acritical, contented

and efficacious) compared to their Chinese counterparts. There were no differences in class

membership for Dominican youth compared to Puerto Rican youth. Overall, these patterns suggest

that African Americans are the least likely group of youth to be in Class 2 (acritical, contented and

efficacious) whereas Chinese are the most likely.

Class differences in Socioemotional and Academic Well-Being (Stage 3)

Last, we examined mean differences in youth's socioemotional and academic well-being

across classes, controlling for race/ethnicity (see Table 4). Results showed class differences in both

types of well-being. Depressive symptoms were significantly lower for youth in Class 2 (acritical,

contented and efficacious) compared to Class 4 critical and discontented but efficacious) ($p = .02$).

Youth in Class 2 (acritical, contented and efficacious) also had significantly higher academic

engagement than youth in Classes 4 (critical and discontented but efficacious) ($p < .000$) and 1 ($p =$

.02); significantly higher academic competence than youth in Class 4 (critical and discontented but

efficacious) ($p < .000$); and better grades than youth in Class 1 (acritical but partially discontented

and inefficacious) ($p = .001$), Class 3 (critical but contented and efficacious) (p = .03) and Class 4

(critical and discontented but efficacious) ($p < .000$).

<div align="center">**Discussion**</div>

Research on critical consciousness development, which explores how marginalized youth

develop the ability to critically read inequitable social conditions, feel empowered to change them,

and engage in action towards that goal, is at the vanguard of scholarship considering youth

interpretations of economic and sociopolitical contexts as significant factors for development and

well-being. Despite growing evidence about the importance of critical consciousness for positive youth development, there is a dearth of research on how its component parts interplay and jointly shape outcomes. There is also limited knowledge as to whether the implications of critical consciousness extend beyond socioemotional and occupational well-being. Using a person-centered approach, we uncovered distinct patterns characterizing critical consciousness among a sample of racial/ethnic minority youth in early adolescence, finding these patterns to be differentially associated with race/ethnicity and socioemotional and academic well-being.

Critical Consciousness Classes

Our latent class analyses revealed four classes, or typologies, of critical consciousness endorsed by different subgroups of youth. Class 1 (acritical but partially discontented and inefficacious) was characterized by low levels of critical reflection, low beliefs about U.S. fairness, low internal political efficacy, but moderately high confidence in government responsiveness. While not explicitly recognizing racial or economic inequality, these youth still feel the system to be unfair, but believe in the responsiveness of the government – but not their own agency – to address this unfairness. Class 2 (acritical, contented and efficacious) was similarly uncritical about economic and racial inequalities, but expressed high beliefs about fairness in the U.S., and high external and internal political efficacy. These youth have positive views about the fairness if the US system and the opportunity structure, feel the government is responsive to their needs and also feel agency to make change should it be needed. Class 3 (critical but contented and efficacious) was critical of the system, evincing high critical reflection about economic and racial inequality and moderate beliefs about fairness in the U.S., paired with high confidence in the responsiveness of government to their needs and their ability to make change. These youth recognize economic and racial inequality and do not endorse meritocratic myths, but they still feel that the government is

responsive and have high internal sociopolitical efficacy. Class 4 (critical and discontented but efficacious) was also relatively critical about economic and racial inequality, with lower beliefs in the fairness of the U.S. system than Class 3. These critical beliefs were paired with very low confidence in the responsiveness of government, but relatively high internal political efficacy. Thus, Classes 3 (critical but contented and efficacious) and 4 (critical and discontented but efficacious) are both critically reflective, but are distinguished by their opposite levels of external political efficacy. Classes 1 (acritical but partially discontented and inefficacious) and 2 (acritical, contented and efficacious) are both uncritical about economic and racial inequality, but Class 1 seems to feel the system is rigged with little they can do to change it, while Class 2 (acritical, contented and efficacious) feels the system is fair and amenable to change.

Our results thus illustrate the complexity of critical consciousness that characterize different subgroups of youth. Recent conceptualizations of the development of critical consciousness have pointed away from simplistic stage-like accounts, recognizing instead the complexity and nuance of experiences, cognitions, supports and motivations that undergird this phenomenon in complex ways (Diemer & Rapa, 2016; Godfrey & Grayman, 2014; Guishard, 2009; Watts et al., 2003). The typologies we uncovered support this view, even at the outset of youth's abilities to think systematically about fairness, equity and social justice. They also provide important nuance in the conceptualization and development of CC across its components – particularly as it pertains to the role of fairness beliefs and external and internal political efficacy. It seems relatively clear that youth in Class 2 (acritical, contented and efficacious) have yet to engage in any process of critical reflection or action that would promote their critical consciousness. Youth in the other classes represent an interesting mixture of beliefs that show the complexity of these thoughts and feelings. Youth in Class 1 are not critical of economic and racial inequality, but still feel the U.S. system is

generally not meritocratic or fair. This pattern could represent internal conflict between competing motivations to recognize or justify societal inequity (c.f. Godfrey & Grayman, 2014). It could also be that the more general wording of the beliefs about fairness items taps into perceptions of system unfairness outside of racial and economic hierarchies, or reflect the fact that these early adolescent youth are still beginning to think systematically about fairness and injustice in society. Youth in Class 3 (critical but contented and efficacious) and Class 4 (critical and discontented but efficacious) are critically reflective on racial and economic inequality but they also have different patterns of external vs. internal political efficacy and slightly different levels of U.S. fairness beliefs (moderate in Class 3 and moderately low in Class 4). Future research is needed to more fully understand these complex combinations and their predictors at different developmental stages.

It is worth discussing further the fact that critical action was moderate across all four classes, and did not differentiate class membership. That relatively stable levels of critical action patterned with varying levels of reflection and efficacy could be interpreted as running counter to theoretical arguments suggesting reciprocity between reflection and action (Freire, 1970; 1973; Watts & Hipolito-Delgado, 2015). However, upon reflection, we believe this lack of differentiation to be due instead to the way in which action was measured in this study. Since our measure of action focused solely on commitment to future action for social justice, it likely does not accurately represent youth's current action to make change. Indeed, there are many examples of youth engaging in influential and high profile activism of the sort not captured here (c.f. the case of Audrey Faye Hendricks (see Levine, 2000); or *Juliana v. U.S.*, a current youth-led lawsuit against the U.S. government over its role in climate change). Future research could further explore this issue by examining current action youth take in their communities and the larger sociopolitical sphere. To address the possibility that structural barriers such as lack of money and transportation can limit

youth participation in such action, we encourage measures to capture action to make change in youth's micro contexts (e.g. schools; youth organizations) as well as larger community and sociopolitical contexts (c.f. Godfrey & Grayman, 2014). It is also possible that our measure of action taps into more traditional system-ratifying civic activities than the more critical forms (e.g. protest, boycotts) that may better characterize "critical action". This interpretation is especially plausible given the positive (albeit small) correlation between beliefs in US fairness and action. Future research should also endeavor to include measures of action that distinguish between critical and non-critical forms of action (e.g. Santos & Van Dalen, 2017).

Providing insight into the typologies of attitudes and beliefs that characterize certain youth critical consciousness is also useful in informing intervention and education. For example, the critical consciousness patterns of youth in Class 2 (acritical, contented and efficacious), who are uncritical of the system and have high beliefs in US fairness and meritocracy, might benefit most from targeted activities designed to expose inequities in resources and opportunities that characterize marginalized groups' experience in the U.S. These activities should take into account youth's high beliefs about U.S. fairness by incorporating strategies that frame critiques of the U.S. system as "American" (e.g. Godfrey & Wolf, 2016). Similarly, these efforts should capitalize on this class's high levels of external and internal efficacy to engage them in change efforts. Youth characterized by Class 1 (acritical but partially discontented and inefficacious) patterns of critical consciousness – who are uncritical of racial and economic hierarchy but feel the system is unfair – may benefit from activities to help their growing sense of injustice turn into an informed critical reflection based on sociohistorical and economic knowledge. Youth characterized by the patterns in Class 4 (critical and discontented but efficacious), on the other hand, are already critically reflective (at least about economic and racial inequality) but have lower perceptions of government

responsiveness. These youth might benefit from activities designed to foster their external political

efficacy. Interventionists could target change efforts to local government or even smaller contexts

such as schools to help foster youth's sense that system actors can be responsive to their needs.

Our results provide insight into the complex interplay between components of critical

consciousness (Diemer & Rapa, 2016) in addition to identifying distinct typologies with import for

theory and practice. Our findings suggest that, while they are distinct constructs, critical reflection

about racial and economic inequality pattern together, but are not necessarily paired with beliefs

about U.S. fairness. In the two critically reflective classes (Class 3 (critical but contented and

efficacious) and 4 (critical and discontented but efficacious), beliefs about fairness and meritocracy

in the U.S. were only moderate and moderately low (respectively), not low, as one would expect if

fairness beliefs represented the inverse of critical reflection. Moreover, Class 1 (acritical but

partially discontented and inefficacious) and Class 2 (acritical, contented and efficacious) displayed

opposite beliefs about U.S. fairness, even though neither class was critically reflective about

economic and racial inequality. Thus, beliefs about the fairness of the U.S. system do not

necessarily pattern together with other indicators of economic and racial critical reflection, and may

represent a distinct aspect of critical consciousness from assessments of inequality. Fairness beliefs

may represent the motivation to believe the system is just, even when a rational review of the

evidence suggests otherwise (e.g. Godfrey & Wolf, 2016), akin to Diemer's and Rapa's finding that

egalitarianism is distinct from critical reflection. Our findings also reveal important subgroup

patterns in external and internal forms of sociopolitical efficacy. Internal political efficacy – youths'

perceived ability to effect change – represents the type of efficacy conceptualized to translate

critical reflection into action (e.g. Diemer & Rapa, 2016). Finally, the two critically reflective

classes were distinguished primarily by their level of external political efficacy. This could indicate

that perceived responsiveness of the government is better at differentiating classes of critical

consciousness. However, given that internal sociopolitical efficacy was measured by a single item,

external political efficacy may simply have less measurement error and thus more power to

differentiate groups. What is certain is that future research needs to pay attention to this distinction

in efficacy and further consider how both types figure in to critical consciousness development.

Class Differences in Demographic Characteristics and Well-Being

We also explored differences in youth demographics across the critical consciousness

classes. Gender and SES were distributed evenly across classes, suggesting that these additional

axes of marginalization did not appreciably influence patterns of critical consciousness. We did find

racial/ethnic group differences in the composition of Class 2, characterized by low reflection, high

fairness beliefs, and high political efficacy. Disproportionately more Chinese and fewer African-

American youth failed to recognize economic and racial hierarchies and believed the system to be

fair, responsive, and amenable to change. Perhaps Chinese youth are more likely to come from

immigrant families and therefore espouse a more optimistic view of the U.S. socioeconomic system

and their chances for future success, as the literature on immigrant optimism would suggest (Kao &

Tienda, 2005). It could also be that, as a "model minority" (Wong & Halgin, 2006), Chinese youth

experience marginalization due to their racial/ethnic heritage differently than youth from other

groups, which may influence their critical consciousness. In the same vein, the unique historical

realities and struggles characterizing the African American experience may enable these youth to

more readily recognize the influence race and class on the U.S. opportunity structure.

We also examined how youth's socioemotional and academic well-being differed across

typologies of critical consciousness. Our findings suggest that critical consciousness differed across

the classes in surprising ways. Overall, youth in Class 4 (critical and discontented but efficacious)

had worse socioemotional and academic well-being than youth in Class 2 (acritical, contented and efficacious), reporting more depressive symptoms, lower academic competence, lower academic engagement, and worse grades after controlling for race/ethnicity. Thus, critically-reflective youth who do not trust the government seem to suffer in their socioemotional and academic well-being, at least compared to youth who are less critical and more trusting. Cohen's D for these differences ranged from .34 to .64, suggesting medium-sized effects.

The findings on class differences in youth's depressive symptoms, academic competence and academic engagement nuance previously established associations between various critical consciousness components and positive socioemotional and occupational outcomes among marginalized youth. Importantly, youth in Class 3 (critical but contented and efficacious) did not display worse outcomes than youth in the other classes, despite having the highest levels of critical reflection. Similarly, youth in Class 1 (acritical but partially discontented and inefficacious) held the lowest perceptions of fairness, but paired with low reflection and moderately high external political efficacy, this was not detrimental. Instead, the combination of high critical reflection and low sociopolitical efficacy – particularly external political efficacy – seems to be especially harmful for youth's socioemotional and academic well-being. This finding extends extant critical consciousness theorizing (Diemer & Rapa, 2016; Freire, 1970, 1973; Watts et al., 2011) that sociopolitical efficacy may distinguish "armchair activists" (youth who are critically aware of societal inequities yet do not engage in action) from those who are participatory. It also suggests that sociopolitical efficacy may be a protective factor allowing marginalized youth to critically reflect on societal inequities without repercussions for their mental health or engagement in school. This resonates with O'Connor's (1997) findings that a recognition of the need for (collective) struggle distinguished critically reflective youth who strived in school from critically reflective youth who disengaged from school.

It is notable that youth in Class 2 had higher grades than youth in any other class (effect

sizes for these differences were also in the medium range (.38 to .59)). What distinguishes youth in

Class 2 from every other class is their high level of beliefs about US meritocracy and fairness.

Indeed, some scholars suggest that such kinds of beliefs are needed to foster youth's success in

school (Dalbert & Stoeber, 2005). Other research, however, finds that negative relations between

marginalized youth's system-justifying beliefs and their academic achievement (O'Brien, Mars &

Eccleston, 2011). This finding also runs counter to the robust evidence that critical consciousness is

associated with improved occupational outcomes, although these constructs are potentially too

distinct to compare directly, especially given the meritocratic ideology that characterizes American

schooling practices. Yet, it also contrasts with evidence that critical pedagogy analyzing

discrimination and inequality benefits the academic achievement of racial/ethnic minority youth

(Cabrera et al., 2014). A possible explanation concerns the developmental stage of youth in our

sample. Much of the work on meritocratic ideology, critical consciousness and critical pedagogy

focuses on older adolescents in high school. Cognitively speaking, youth at this age are just

beginning to grapple with a more complex systemic understanding of societal inequality and to

identify their place in the system and ideological stance (Flanagan, Cumsille, Gill & Gallay, 2007;

Quintana, 2007; 2008; Segilman, 2012; 2013). They have not had as many opportunities as older

youth to participate in collective action or develop an understanding of the historical and structural

underpinnings of societal inequality. Meritocracy may be beneficial for school engagement until

more complex narratives (e.g. around the value of struggle; O'Connor, 1997) are developed. An

important caveat to the above discussion is that this finding could also be driven by the fact that

youth in Class 2 are more likely to be in one ethnic group (Chinese) and therefore this finding could

be driven by their disproportionately high performance in school. Overall, our findings reinforce the

value of considering academic achievement as a potential outcome in critical consciousness

scholarship. But, future research is needed to more fully explore and unpack associations between it

and critical consciousness components across different stages of development.

We see these findings as further evidence of the importance of person-centered approaches

utilized alongside variable-centered approaches. Diemer and Rapa (2016) found that sociopolitical

efficacy played neither a mediating nor a moderating role in associations between critical reflection

and action. The current person-centered approach suggests that it is an important factor in

distinguishing classes of critical consciousness and predicting developmental outcomes. Since youth

in early adolescence have relatively fewer opportunities than older youth to channel heightened

reflection into action, they may rely more heavily of assessments of sociopolitical efficacy to guide

their thinking about social and economic hierarchies, with implications for their well-being. This

has disturbing implications in a political environment in which marginalized groups are increasingly

attacked and ridiculed. Our findings also highlight the value of applying multiple techniques and

methods to the study of critical consciousness. Person- and variable-centered techniques should join

qualitative and critical participatory action approaches to better understand the process of critical

consciousness development and what it means for youth's lives (Sanchez Carmen et al., 2015).

Limitations and Conclusion

Several limitations of this study should be acknowledged. First, our operationalization of

indicators of critical consciousness was limited by data availability and sample size. Further

research taking a person-centered approach is needed to explore potential differences in class

characterization based on other operationalizations. Second, while we modeled class membership

and the cross-sectional association of class membership with socioemotional and academic

outcomes, we were unable to examine change over time with these data. As such, causality is

unclear. Second, the small size and urban nature of our sample limits generalizability. Although we examined the demographic characteristics of or classes and controlled for race/ethnicity when looking at class differences in outcomes, future research with a larger and more variable sample could examine other demographic factors that may influence results. In addition, our sample focused on a younger developmental stage than is typically examined in critical consciousness research, which allows us to extend this work to a novel developmental period, but also limits the comparability of our results to prior studies. More work is needed to understand differences in patterns of critical consciousness – and their association with outcomes – at different developmental stages. Third, our measure of critical action captured future commitment to action rather than actual action, which would have been desirable. Fourth, measures of contextual level variables – and particularly about the schools that youth were embedded in – were beyond the scope of this study. Future research should consider how features of youth's schools and classrooms relate critical consciousness classes (Godfrey & Grayman, 2014). Finally, our variables were all assessed through youth self-report, introducing the potential for mono-reporter bias. Teacher or parent reports of youth mental health and academic progress would increase our confidence in the accuracy of these outcome measures and the associations among CC class membership and outcomes.

These limitations do not detract, however, from the importance of this study for understanding how youth's awareness and interpretation of the sociopolitical environment effects their well-being. Our results offer new theoretical and practical insight into critical consciousness, a key theory in the study of youth's understanding of, attributions for, and reactions to, inequality. In particular, they indicate that youth's critical consciousness can be characterized by different patterns of critical reflection, beliefs about U.S. fairness, and external and internal political efficacy, and that these patterns have implications for socioemotional and academic well-being.

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Table X. Items and scales measuring critical consciousness components

Critical Consciousness Component	Scale/Item	Number of Items	Items	Reliability
Critical Reflection*	Economic Critical Reflection	4	• You need money to get all the education you want. • You need money to have the career you want. • If your family doesn't have a lot of money, you will always have to work harder than others to be successful. • If your family doesn't have a lot of money, you have to get better grades than others to be successful.	α = .73
	Racial Critical Reflection	2	• People of my race don't have the same opportunities as other people to go to college. • People of my race have to work harder than other people to be successful.	r = .66
	Belief in U.S. Fairness	3	• In the U.S. you have an equal chance no matter where you came from or your race. • Everyone gets treated fairly in the U.S. • In the U.S., everyone has an equal chance to be successful.	α = .74
Sociopolitical Efficacy	External Political Efficacy	5	• The U.S. government is pretty much run for rich people, not for the average person. • The government doesn't really care what people like us think. • The government will do whatever it wants to, no matter what people like us feel. • The government doesn't care about ordinary people like us. • It makes me angry with the government when I think about the way some people have to live.	α = .79
	Internal Political Efficacy	1	• People have the ability to change the gov't if they don't like what it is doing	n/a
Critical Action	Critical Action	3	• It is important to me to try to make the world a better place • It is important to me to help those who are less fortunate than I am • It is important to me to work together to make my schools and neighborhoods better places to live.	α = .76

* Note: The distinction between economic and critical reflection was supported empirical by the results of an exploratory factor analyses indicating that this two-factor solution was the best fit to the data (CFI = .97; TLI = .90; RMSEA = .02, 90% CI: (.00 to .17); SRMR = .07). The economic critical reflection items loaded highly (above .75) onto their factor and the racial critical reflection items loaded highly (above .75) onto their factor.

Table 1. *Descriptive statistics and correlations for critical consciousness measures*

	Mean	Median	Standard Deviation	Economic Critical Reflection	Racial Critical Reflection	Belief in U.S. Fairness	External Political Efficacy	Internal Political Efficacy	Critical Action
Economic Critical Reflection	2.89	3.00	0.86	1					
Racial Critical Reflection	2.47	2.50	1.08	0.36**	1				
Belief in U.S. Fairness	2.60	2.67	0.86	-0.03	-.14**	1			
External Political Efficacy	2.50	2.60	0.63	-.13**	-.22**	.08	1		
Internal Political Efficacy	2.58	3.00	0.82	.00	-.04	.46**	-.08	1	
Critical Action	3.04	3.00	0.64	.03	.02	.18**	-.06	.10*	1

* p < .05; ** p < .01

Table 2. *Model fit statistics for latent class models*

	AIC	BIC	Adjusted BIC	BLRT	Entropy
1 latent class	3525.96	3550.59	3531.55	N/A	N/A
2 latent classes	3488.17	3541.53	3500.27	Sig	0.59
3 latent classes	3452.99	3535.08	3471.61	Sig	0.63
4 latent classes	3458.16	3568.99	3483.31	NS	0.70
5 latent classes	3465.31	3604.87	3496.97	NS	0.76

Note: AIC = Akaike Information Criterion; BIC = Bayesian Informaton Criterion; Adjusted BIC = sample-size adjusted Bayesian Information Criterion; and BLRT = Bootstrap likelihood ration test.

Table 3. *Multinomial logistic regression of critical consciousness classes on race/ethnicity*

	Class 1		Class 3		Class 4	
	OR	*SE*	*OR*	*SE*	*OR*	*SE*
African American youth as reference						
Puerto Rican	.51	.60	.02	4.07	.70	.63
Dominican	.30*	.54	.10*	.98	.57	.55
Chinese	.13***	.58	.14**	.66	.15***	.59
Chinese youth as reference						
Puerto Rican	3.99*	.62	.73	4.04	4.77*	.61
Dominican	2.36	.57	.17	.99	3.85*	.55

Note: Class 2 (acritical, contented and efficacious) is the reference category. OR = Odds Ratio; SE = standard error. *p < .05; **p < .01; ***p < .001

Table 4. *Latent class analysis of distal outcomes across critical consciousness classes*

	Depression		Self-Esteem		Academic Engagement		Academic Efficacy		Academic Competence		Grades	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Class 1	0.42	0.03	3.18	0.06	2.79*	0.07	3.52	0.07	2.93	0.08	3.62*	0.22
Class 2	0.38	0.03	3.19	0.06	2.99	0.05	3.63	0.07	3.11	0.07	2.66*	0.16
Class 3	0.44	0.06	3.06	0.09	2.81	0.12	3.50	0.18	2.98	0.15	3.40*	0.31
Class 4	0.49*	0.03	3.07	0.06	2.61*	0.06	3.44	0.07	2.86*	0.08	3.80	0.21

Note: Grades are coded such that low numbers indicate better grades. * indicates a significant difference between that Class and Class 2 (all $ps < .05$)
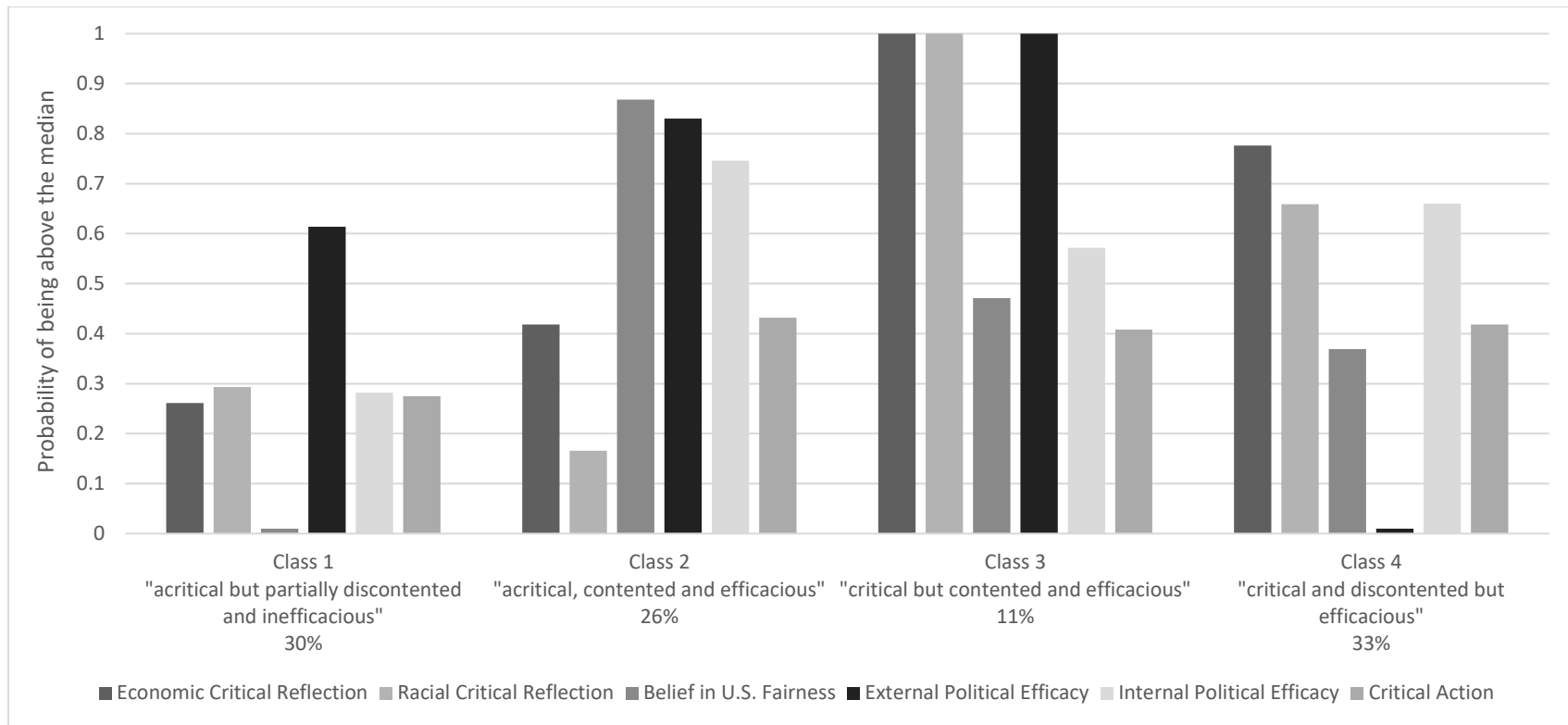
Figure 1. Response patterns for latent classes. Height of bars corresponds to that an individual in a given class will be high (above the median) on a given indicator.