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# Exploring Sense of Community as a Predictor of Critical Consciousness Among Youth in Ukraine

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## Abstract

This article furthers our knowledge of critical consciousness (i.e., perceived inequality, egalitarianism, sociopolitical action) by testing an expanded model of critical consciousness development that hypothesized relationality (i.e., sense of community) as a predictor of critical consciousness and exploring it in an understudied region (i.e., Ukraine). While our United States -based measures yielded factor structures that are not comparable to the United States, we found that sense of community is marginally significantly related to egalitarianism and perceived inequality, but not significantly related to sociopolitical action. We also found that women and Ukrainian speakers were more likely to experience sense of community and Ukrainian speakers were more likely to be involved in sociopolitical action. We discuss implications for research and theory.

Critical consciousness (CC), a concept originally introduced by Paul Freire (2000), is a process of critical thinking, reflection on social injustices and inequities, and taking action to address those injustices (e.g., socio-political participation). It posits that change is a dialectic process involving reflection and action to address societal inequities. CC allows youth to understand their connection to societal problems, and feel equipped to challenge systems that promote and sustain injustices. Starting with the pioneering work of Freire (2000), one of the central arenas in which CC is studied and promoted is through both formal and informal education settings. Freire's (2000) approach to education was to eliminate the banking system of education. Instead of a linear, one directional transfer of knowledge, Freire (2000) offers a dialectic approach or praxis in which both teachers and students provide information from their realities, both parties reflect on the information, engage in dialogue, take action, and then recreate information, leading back to reflection.

The process of CC is dynamic and continuous, making it difficult to conceptualize and measure. However, projects to enhance critical consciousness with youth are being undertaken on a global scale in both formal and informal education settings. In order to know if these projects are effective, an assessment instrument for CC is helpful (Diemer, Rapa, Voight, & McWhirter, 2016). However, the field grapples with CC measurement because there is still a debate about the number and type of components that make up CC (Jemal, 2017). Most CC scholars agree on a cognitive and behavioral/action component of CC (Jemal, 2017), while some scholars also include a third component often related to motivation or efficacy (Jemal, 2017). In our study, we seek to expand our concept of CC by understanding the role of relationality in CC development. The second author developed a theory of the role of emotions and relationality in CC development, rooted in the work of feminist and social movement scholars, which we explored among Ukrainian youth. Herein, we present our rationale for understanding the role of relationality when examining critical consciousness, a discussion of the measurement of CC and the Ukrainian context in relation to CC development.

## Beyond the Individual: Understanding the Role of Others as a Part of Critical Consciousness

The idea that sense of community (SOC) may lead to enhanced CC could be connected back to the consciousness-raising groups of the

second wave of feminism in the US (Ferree & Hess, 2000). These groups were rooted in the idea that by joining together and engaging in dialogue, the personal could become political, an aspect of the cognitive component of CC. Feminist and social movement scholars (e.g., Boler 1999; Polletta 2002) have developed a nuanced understanding of how relationships are an important driver of consciousness raising and engaging in critical action. For example, developing CC involves seeing the world in new ways and taking action towards amending injustices. But standing against societal norms is scary and potentially harmful. Both of these may stand in conflict with an individual's previous socialization, existing relationships, and/or work or education environment. In other words, CC development can be risky. Some of this risk may be mitigated by relationships that are rooted within a similar understanding or way of being in the world (Boler, 1999). Using these literatures, we propose that relationality is meaningfully related to CC and that certain types of relationships and communities (e.g., supportive, open, dialogue oriented, solidarity based) are important to the three subcomponents of CC.

While more CC scholars (e.g., Christens, Winn and Duke 2016; Jemal, 2017) are starting to acknowledge the role of the collective, groups, community, and relationality in CC, this line of thought has not been clearly defined. Often this aspect of the CC model is a brief addendum where it seems to matter but there is not much specific testing or even theorizing of when or how it impacts CC (Wallin-Ruschman, 2018). Our model of CC development sees relationality within a community as a driver of CC development. Groups with a higher level of sense of community are thought to share more experiences and engage in more meaningful dialogue, both of which are thought to facilitate CC development. We discuss our model in an article addressing similar research in Iran (Wallin-Ruschman, Patka, & Murry, 2018).

The qualitative work on which this study is based found that "relations seem to help work out ambivalence and ambiguity through engagement in discussions and shared experiences" (Wallin-Ruschman, in press, pg. 18). A follow up mixed-methods study, also conducted within higher education in the United States, found that a driving factor influencing CC development was the importance of community (Wallin-Ruschman, Allegood, Grim, & Langston, 2016). Some aspect of belonging to a group seems to help facilitate CC development, at least in the United States higher education context in which they have been explored. (pg. 44).

When in a community, individuals may be able to shift blame from themselves to social structures, a fundamental aspect of CC (Summers-Effler, 2002). Changing the way in which one thinks involves breaking from the status quo, which can be difficult, particularly if the status quo is meeting some of an individual's needs (Summers-Effler, 2002). Summers-Effler (2012) suggests that the emotional energy obtained through group interactions and collective identity can begin to fulfill these needs and begin to shift awareness from the individual to the collective. Benefit from the status quo would be more the case for individuals with more privileged identities and thus provides some grounds to contribute to the ongoing discussion in the literature of the differences of CC in more marginalized versus more privileged groups (Jemal, 2017). For privileged youth, CC development promotes understanding of how social injustice operates and ways in which all people can promote a just society (Watts, Diemer & Voight, 2011). Thus, it is imperative that attention be devoted to ways of enhancing the ability of youth to think critically about the world, their status in it, and how to make the world a more equitable place.

We argue that when individuals are a part of a community where they feel belonging, solidarity, and support they can better engage

in the dialogue and praxis that leads to CC. In a recent review of the CC literature, Jemal (2017) noted the importance of group identity in CC and argued that "group identity and a sense of community provide support and acceptance from others who are also struggling (Hatcher et al. 2010)" (pg. 617) which may lead to CC development.

**Measuring Critical Consciousness**

Scales provide an immediate assessment of where individuals are on the continuum of CC, and may be used to measure changes in CC after they have been exposed to practices intended to facilitate its growth. For decades quantitative research on CC was limited, and relied on proxy measures (Diemer, Rapa, Park & Perry, 2017). Until recently, no scale specific to CC existed. The first scale appeared in 2014, and since then four scales have been developed to measure the degree of CC of individuals, although each approaches the measurement of CC from different perspectives. A full discussion of these scales can be found in Diemer et al. (2015).

Despite the initial excitement in having a quantitative measure of CC, each scale has substantial limitations (Diemer, McWhirter, Ozer, & Rapa, 2015; Wallin-Ruschman et al, 2018). In an area of study that is still debating the component parts of CC (Jemal, 2017), over relying on conceptualizations of CC as laid out in the various measure may stunt development of the field. CC literature, like much of Western psychology in general, has tended to focus on the individual without attention to their social context. Like Gilligan's (1982) critique of Kohlberg's concept of moral development, we hold that the CC literature has similarly been limited by a masculine perspective that emphasizes the cognitive and the individual (Carlson, Engebretson & Chamberlain, 2006; Freire, 2000; Wallin-Rushman, 2014; 2018). This focus is also reflected in the measures of CC.

Some CC scholars have started to explore a facet of relationality (i.e., social support) by examining support for challenging social injustice, which has found that support for challenging social injustice is positively related to critical reflection (O'Connor, 1997; Mustakova-Prossardt, 1998), but it is not always related with sociopolitical action (Diemer et al., 2006; Diemer & Li, 2011; Morsillo & Prilleltensky, 2007). Jamel (2017) argues that "the development of critical consciousness is theorized to occur when people are socially supported to explore and challenge social inequity (Diemer et al. 2006; Diemer and Li 2011; Freire 1973; Ginwright and James 2002; Giroux 1983; Green 2009). Supportive contexts may encourage the development of perceived capacity that one can make a difference and seems to foster engagement tin sociopolitical action (Diemer et al. 2009)." (pg. 614). For example, interventions designed to enhance CC are generally group or community based and the literature indicates that schools, as well as parents, community groups, and peers, play pivotal roles in developing CC (e.g., Diemer, Kauffman, Koenig, Trahan, & Hsieh, 2006). However, measurement of CC currently does not take this into account (Diemer et al., 2016). While relationships (both between peers and between a mentor and mentee) are thought to be important to the process of CC development, few have explored the possibility that community may be an actual component or predictor variable of CC.

While none of the three existing scales perfectly match our model of CC (i.e., none include emotions or relationality) we used the Critical Consciousness Scale (CCS) developed by Diemer and colleges (2017) because the critical reflection and critical action components most closely aligned with our theoretical conceptualizations. The CCS includes questions related to gender-, race-, and class-based inequities and participation in race- and gender-based activism (Diemer et al., 2015). Further, the scaling of the CCS allows for understanding the different

components of CC and not just one overarching CC construct.

None of the three existing measures of CC include a relational or emotional dimension. Thus, we used a measure of SOC, specifically the Sense of Community Index 2 (SCI-2; Chavis, Lee & Acosta, 2008), as a proxy for a relational dimension of CC. Little research has empirically examined the measure's factor structure (Rivera-Segarra, Rivera-Medina & Varas-Diaz, 2016). However we chose the SCI-2 because it has been used internationally with some success (Chavis et al., 2008) and our data was collected internationally (i.e., Ukraine), which is currently unexplored in terms of CC research. Further, CC is context specific and thus we sought to measure relationality within the specific context in which CC was being measured - the university setting. Recent research suggests that relationships with classmates and instructors can be important components of CC development (Wallin-Ruschman, 2014).

While some qualitative studies have pointed toward the importance of relationality in CC development, there has been little discussion of this concept in regard to modeling or measuring it as an aspect of CC. Christens, Winn and Duke (2016) suggest that relational empowerment may offer a useful area of modeling the role of relationships in CC. Earlier, Christens (2012) outlined a model of relational empowerment and suggested that SOC and the relational dimension of empowerment share some important conceptual overlap. However, he also argues that SOC is not an explicitly political concept, as is empowerment. The SOC model (McMillan & Chavis, 1986) on which the SCI-2 Index is based (Chavis et al., 2008), measures four dimensions: membership, influence, fulfillment of needs, and emotional connection (Chupuer & Pretty, 1999). This model of SOC overlaps well with the model of emotional and relational CC development driving this study.

We set forth to examine the relationship between SOC and CC among youth to explore CC development. We conducted the study in Ukraine, a country in which, to our knowledge, no work exists on CC. Ukraine is an Eastern European country that gained independence in 1991 with the dissolution of the Soviet Union. Ukrainian is the official language, although the population of Ukraine is made up of various ethnic groups with Ukrainians (77.8%) and Russians (17.3%) being the largest groups (CIA Factbook, n.d.). Our data was collected in the city of Odessa, a Russian speaking city which is often referred to as an "international city" given its ethnic diversity. We believe that assessing CC among Ukrainian youth is of particular importance given the current conflict between Ukraine and Russia. Amidst the conflict, there is increasing consciousness about Ukraine's sociopolitical context and both nationalist and pro-Russian activism. However, information on critical consciousness in Ukraine is not available. While it would be beneficial to have conducted a qualitative study to explore critical consciousness in Ukraine first, our Ukrainian colleagues are not trained in qualitative research. Therefore, we opted to utilize one of the new US based measure to explore critical consciousness in this distinct context. International CC interventions are not uncommon, and being able to measure the impact of an intervention is ideal. We felt the opportunity to begin to test the CCS in an international setting was a good starting point to exploring the use of the scale outside the US.

The present study contributes to theory on CC by examining the role of relational variables (i.e., SOC) on its development, and to CC research in general by extending its use to a Ukrainian context. We sought to examine (1) Is the factor structure of Ukrainian CC and SOC comparable to the structure identified in the United States?, (2) Does SOC predict CC?, and (3) How do demographic differences affect CC and SOC among students in Ukraine?

## Method

### Participants

The total sample was made up of 106 first year university students in Odessa, Ukraine. Participants were enrolled in a university that specialized in training students in telecommunications. At the time of data collection (May 2015), the university had approximately 300 first year university students. Notably, Ukrainian primary and secondary school is made up of 11 years of education, and a bachelor's degree typically requires four years of education. All students were between the ages of 17 and 20 years (M = 18.02, SD=.69). The demographic composition of the sample is reported in Table 1. Notably, the average monthly salary in Ukraine was 5337 UAH in June of 2016 (Trading Economics 2016).

Table 1. *Demographics by percentage and number of participants.*

| Demographic Variables (n=106) | %(n) |
|---|---|
| Gender | |
| Male | 49.1 (52) |
| Female | 50 (53) |
| Nationality | |
| Ukrainian | 79.8 (87) |
| Russian | 8.3 (9) |
| Native Language | |
| Ukrainian | 42.2 (46) |
| Russian | 52.4 (56) |
| Language used at University | |
| Ukrainian | 6.4 (7) |
| Russian | 86.2 (94) |
| English | 1.8 (2) |
| Living Situation | |
| With Family | 51.37 (56) |
| University Dormitory | 39.4 (43) |
| Rented Apartment | 3.7 (4) |
| Mother's Highest Level of Education | |
| Secondary School | 7.3 (8) |
| Vocational School | 36.7 (40) |
| University | 53.2 (58) |
| Father's Highest Level of Education | |
| Secondary School | 5.5 (6) |
| Vocational School | 45.9 (50) |
| University | 45 (49) |
| Parents Combined Monthly Income in Ukrainian Hryvnia ($1 USD = 25.05 UAH) | |
| Less than 3000 UAH (Less than $119.76 USD) | 9.2 (10) |
| 3000 to 6000 UAH ($119.76 to $239.52 USD) | 46.8 (51) |
| 6000 to 10000 UAH ($239.52 to $399.20 USD) | 17.4 (19) |
| 10000 to 20000 UAH ($399.20 USD to $798.40 USD) | 13.8 (15) |
| 20000 to 30000 ($798.40 USD to $1197.60 USD) | 3.7 (4) |
| 30000 to 50000 ($1197.60 to $1996.01 USD) | 0.9 (1) |

**Procedures**

Institutional review board approval was received prior to conducting the research. However, institutional review boards or its equivalent do not exist in Ukraine, so approval from the university's Vice Rector in International Relations, responsible for all international cooperation, was sought and received. Given that Odessa, Ukraine is a Russian speaking city, all research materials were translated into Russian using established procedures to ensure cultural and linguistic equivalence (Liang & Bogat, 1994). First, a bilingual Russian and English speaker translated the English measures to Russian. Then, the translated Russian measures were back-translated into English by a person who did not conduct the initial translation. We compared the original English measures with the back-translated English measures to determine whether each item retained its meaning. All items were deemed to be equivalent to its original meaning.

We surveyed students within the classroom setting and we asked all first year students to participate; none declined participation. Participants were offered extra credit points toward their final grade in the class. However, points awarded for participation were low; thus, non-participation did not significantly impact student grades. All participants first received an information sheet and, when they agreed to participate, they were given the survey measures to complete. Participants completed the measures anonymously and independently and submitted the completed survey on a desk in the front of the classroom.

**Measures**

In addition to the demographic questions, we administered two surveys: CCS (Diemer et al., 2017) and the SCI-2 (Chavis et al., 2008). The CCS (Diemer et al., 2017) is made up of 22 items measuring three subscales. The first subscale measures perceived inequality (eight items), as measured by the perception of socioeconomic, racial/ethnic, and gendered constraints on educational and occupational opportunity. The second subscale, egalitarianism (five items) measures endorsement of societal equality within society. The last subscale measures sociopolitical participation (nine items), which is self-reported participation in social and political activities to change perceived inequalities. Higher scores on each CCS subscale reflect a greater degree of endorsement on the given reflection (subscales one and two) or action (subscale three). Validation work by Diemer et al (2017) demonstrated good fit for the proposed 3-factor structure within a high school student sample in the US, with each sub-scale showing good internal consistency using Cronbach's alpha (i.e., perceived inequality, $\alpha = .90$; egalitarianism, $\alpha = .88$; sociopolitical action, $\alpha = .85$).

The SCI-2 consists of 25 items and is based on McMillan and Chavis' (1986) theory of sense of community, which is made up of membership (six items), influence (six items), reinforcement of needs (six items), and shared emotional connection (six items). One additional item (i.e., How important is it to you to feel a sense of community with other community member?) is intended to be a validating question; however, 15 participants did not answer this question. Data was not missing for any other items in the SCI-2. The SCI-2 subscales have shown good reliability with Cronbach's alpha ($\alpha$) coefficient scores between .79 and .86 in previous studies, including international samples (Chavis et al., 2008). Higher scores on each SCI-2 subscale reflect a greater degree of the given subscale. We could not find any validation studies to date that were specific to the SCI-2. Validation work on the SCI-1 generally showed poor fit for the proposed four factor structure, but did offer some evidence of model invariance across time when models were nested within students (Flaherty, Zwick, & Bouchey, 2014). Part of our contribution in this project is to evaluate whether or not the single- or four-

factor structures proposed by Chavis et al. (2008) are tenable.

**Analysis**

To test whether SOC impacts CC we ran two structural equation models using maximum likelihood estimation in R version 2.14.1 (R Development Core Team, 2011) using the lavaan package (Rosseel, 2012), where sense of community predicted critical consciousness sub-scales: perceived inequality, sociopolitical action, and egalitarianism. The first model included only variables of theoretical interest; the second model included demographic variables for age, gender, language, income, father's education, and mother's education to test and control for the effect of individual differences. The addition of six covariates strained the power of our analysis given our sample size and our model fit. Therefore, results are reported for a reduced second model, one that achieved good model fit and included only covariates with at least marginal significance. Statistical significance was interpreted at the conventional alpha of .05, although due to our small sample size relationships of marginal significance are also reported (α =< .10).

## Results

**Research Question 1: Factor Structure**

***Critical consciousness:*** A confirmatory factor analysis showed poor fit for the prescribed three factor structure ($\chi^2(206) = 423.10$, $p < .001$; CFI = .74; TLI =.71; RMSEA = .10; SRMR = .10). A principal components analysis using oblique rotation on the correlation matrices revealed the data contained six components with multiple cross-loading items. After removing cross-loading items, the proposed three factor structure fit well ($\chi^2(45) = 336.60$, $p < .001$; CFI = .98; TLI =.97; RMSEA = .04; SRMR = .05) indicating that with minor revisions the scale held up in our international sample. However, unlike previous studies none of the sub-scales significantly correlated with each other or loaded significantly on a higher-order factor of critical consciousness. Additionally, while perceived inequality and sociopolitical action correlated near zero ($r = .06$, $p = .21$), egalitarianism, albeit non-significantly, correlated negatively with perceived inequality ($r = -.20$, $p = .12$) and sociopolitical action ($r = -.07$, $p = .35$). This is in line with the conclusions drawn by Diemer and colleagues (2015), who suggested that egalitarianism represents more so the endorsement of an "ideal state" rather than a critical reflection on real conditions of inequality; they also contend that the CCS subscales are distinct enough to be considered separate subscales. Therefore, sub-scales of critical consciousness were not thought to represent an overall latent variable and were treated as separate constructs. The internal consistency (i.e., Cronbach's alpha) of the remaining items by sub-scale were above the conventional cut-off of .70 (John & Benet-Martinez, 2000) at α = .81 for perceived inequality (5 items), α = .78 for egalitarianism (2 items) and α = .74 for sociopolitical action (3 items).

***Sense of community:*** A confirmatory factor analysis modeling the four-factor structure on a higher order latent variable of SOC revealed extremely poor fit ($\chi^2(248) = 563.70$, $p < .001$; CFI=.67; TLI=.63; RMSEA=.11, SRMR=.16) and a four-factor structure without a higher-order factor was non-positive definite. A principal components analysis using oblique rotation on the correlation matrices showed that there were six components with eigenvalues over one, multiple items cross-loaded on more than one component (> .40), and few loaded according to their prescribed factors (~11 of 24 items). These results lead us to conclude that the scale does not function adequately within the international context regardless of whether the four factor or single factor structure was utilized.

We surmised that the structure of our data did not match the originally proposed structure due partly to problems with the scale itself (Chipuer & Pretty, 1999), but also as a result of the particular community we sampled (i.e., the university community). For instance, the second component included items such as "I can recognize most of the members of this community" (loading = .91), and it is not likely that people would recognize most individuals in a university, outside of one's major area of study, classrooms, or dorm setting. Similarly, the third component included items such as "People in this community have similar needs, priorities, and goals" (loading = .78), which is true to the extent that everyone attends the university for an education and to better their future, but beyond the university such statements are not likely to be true given the diversity of students' needs, priorities, and goals for the future. Therefore, for the purpose of we took items that loaded on the first component only (>.40), minus items that cross-loaded on other components (>.40), as this component seemed to represent the sense of community concept articulated in the literature. For example, the highest loading item was "Being a member of this community is part of my identity" (loading = .81). Only three items remained using this standard. Models containing only three items are considered "just-identified models," that by necessity show perfect fit in confirmatory factor analyses due to the equal number of variances/co-variances and the parameters to be estimated (Kline, 2016). The internal consistency for these items was $\alpha = .70$.

**Research Questions 2-3: Sense of Community and Individual Differences on Critical Consciousness**

Model 1 tested whether SOC predicted perceived inequality, sociopolitical action, and egalitarianism without covariates. The model fit the data well ($\chi^2$ (62) = 69.07, p = .25; CFI= .98; TLI= .98; RMSEA= .03; SRMR= .08), however none of our predicted relationships were statistically significant by the conventional level ($\alpha = .05$). Sense of community was marginally statistically significant on perceived inequality ($\beta = -.24$, p = .07) and egalitarianism ($\beta = .23$, p = .07), such that reporting feeling a SOC predicted a decrease in perceived inequality and an increase in endorsement of egalitarianism (see Table 2). SOC was not significantly related to sociopolitical action ($\beta = .07$, p = .59).

Model 2 included the same predictions and latent construct definitions. However, we controlled for individual differences in sense of community, perceived inequality, egalitarianism, and sociopolitical action through demographic covariates: age, gender, and language. Model 2 fit the data reasonably well ($\chi^2$ (89) = 108.75, p = .08; CFI= .95; TLI= .93; RMSA= .05; SRMR= .08). The marginally significant relationships between sense of community and perceived inequality ($\beta = -.24$, p = .08) and egalitarianism ($\beta = .24$, p = .07) remained, as did the non-significant relationship between sense of community and sociopolitical action ($\beta = .09$, p = .48). Statistically significant relationships were identified between gender and sense of community ($\beta = .39$, p = .002), and between language and sense of community ($\beta = -.25$, p = .05) and language and sociopolitical action. Coefficients revealed that women were more likely to experience a sense of community than men, and that Russian speakers were less likely to experience a sense of community or be involved in sociopolitical action than Ukrainian speakers. In addition, a marginally significant relationship between age and sociopolitical action was also found ($\beta = -.21$, p = .07), where older participants were less likely to be involved in sociopolitical action than younger participants (see Table 3).

Table 2. *Unstandardized, Standardized, and Significance Levels for Model 1 (Standard Errors in parentheses; N = 106)*

| Parameter Estimate | Unstandardized | Standardized | *p* |
|---|---|---|---|
| **Measurement Model Estimates** | | | |
| *Perceived Inequality* | | | |
| CC2 | 1.00 | .57 | NA |
| Poor children have fewer chances to get a good high school education. | | | |
| CC4 | .82 (.18) | .56 | < .001 |
| Women have fewer chances to get good jobs. | | | |
| CC5 | 1.34 (.24) | .82 | < .001 |
| Poor people have fewer chances to get good jobs. | | | |
| CC6 | 1.04 (.20) | .68 | < .001 |
| Certain racial or ethnic groups have fewer chances to get ahead. | | | |
| CC8 | 1.22 (.23) | .75 | < .001 |
| Poor people have fewer chances to get ahead. | | | |
| *Egalitarianism* | | | |
| CC10 | 1 | .65 | NA |
| It would be good if groups could be equal. | | | |
| CC11 | 1.48 (.86) | .98 | .08 |
| Group equality should be our ideal. | | | |
| *Sociopolitical Action* | | | |
| CC17 | 1 | .81 | NA |
| Contacted a public official by phone, mail, or email or tell him/her how you felt about a particular social or political issue. | | | |
| CC19 | .71 (.14) | .70 | < .001 |
| Worked on a political campaign. | | | |
| CC21 | .47 (.09) | .63 | < .001 |
| Signed an email or written petition about a social or political issue. | | | |
| *Sense of Community* | | | |
| SOC1 | 1 | .47 | NA |
| I get important needs of mine met because I am part of this community. | | | |
| SOC4 | 1.67 (.43) | .75 | < .001 |
| Being a member of this community makes me feel good. | | | |
| SOC12 | 1.62 (.42) | .76 | < .001 |
| Being a member of this community is a part of my identity. | | | |
| **Structural Model Estimates** | | | |
| Sense of Community → Perceived Inequality | -.12 (.06) | -.24 | .07† |
| Sense of Community → Egalitarianism | .09 (.05) | .22 | .07† |
| Sense of Community → Sociopolitical action | .05 (.10) | .07 | .59 |

NOTE: Statistical significance at p < .05 is marked with a single asterisk (*), marginal significant is marked with a cross (†). Model 1 fit = $\chi^2$ (62) = 69.07, $p$ = .25; CFI= .98; TLI= .98; RMSEA= .03; SRMR= .08.

Table 3. *Unstandardized, Standardized, and Significance Levels for Model 2: with Covariates (Standard Errors in Parentheses; N = 99)*

| Parameter Estimate | Unstandardized | Standardized | *p* |
|---|---|---|---|
| **Measurement Model Estimates** | | | |
| *Perceived Inequality* | | | |
| CC2 | 1.00 | .54 | NA |
| CC4 | .86 (.21) | .56 | < .001 |
| CC5 | 1.45 (.29) | .81 | < .001 |
| CC6 | 1.09 (.24) | .65 | < .001 |
| CC8 | 1.41 (.28) | .78 | < .001 |
| *Egalitarianism* | | | |
| CC10 | 1 | .78 | NA |
| CC11 | 1.08 (.33) | .85 | < .001 |
| *Sociopolitical Action* | | | |
| CC17 | 1 | .77 | NA |
| CC19 | .79 (.15) | .73 | < .001 |
| CC21 | .49 (.10) | .65 | < .001 |
| *Sense of Community* | | | |
| SOC1 | 1 | .53 | NA |
| SOC4 | 1.41 (.31) | .70 | < .001 |
| SOC12 | 1.66 (.36) | .85 | < .001 |
| **Structural Model Estimates** | | | |
| Sense of Community → Perceived Inequality | -.14 (.08) | -.24 | .08† |
| Sense of Community → Egalitarianism | .08 (.05) | .24 | .07† |
| Sense of Community → Sociopolitical Action | .08 (.11) | .09 | .48 |
| Age → Sense of Community | -.07 (.21) | -.04 | .75 |
| Age → Perceived Inequality | .03 (.11) | .03 | .77 |
| Age → Egalitarianism | .02 (.07) | .03 | .80 |
| Age → Sociopolitical Action | -.32 (.18) | -.21 | .07† |
| Female → Sense of Community | .48 (.16) | .39 | .002** |
| Female → Perceived Inequality | -.12 (.08) | -.16 | .12 |
| Female → Egalitarianism | .07 (.05) | .17 | .11 |
| Female → Sociopolitical Action | -.04 (.11) | -.03 | .74 |
| Language → Sense of Community | -.30 (.15) | -.25 | .05* |
| Language → Perceived Inequality | .03 (.08) | .05 | .66 |
| Language → Egalitarianism | .04 (.05) | .10 | .37 |
| Language → Sociopolitical Action | -.27 (.12) | -.25 | .03* |

NOTE: Statistical significance at p < .05 is marked with a single asterisk (*), marginal significant is marked with a cross (†). Model 2 fit =$\chi^2$ (89) = 108.75, p = .08; CFI= .95; TLI= .93; RMSA= .05; SRMR= .08.

## Discussion

The present study sought to address three aims: (1) Is the factor structure of Ukrainian CC and SOC comparable to the structure identified in the United States?, (2) Does SOC predict CC?, and (3) How do demographic differences affect CC and SOC among students in Ukraine? Our analyses indicate that the factor structure of Ukrainian CC and SOC is not comparable to the structure identified in samples from the United States. More specifically, the CCS (Diemer et al., 2017) subscales did not function as subscales in our analysis, and were therefore treated as separate constructs. Similarly, the SOC-2

measure was problematic in Ukraine, failing to resemble the proposed structure in any regard, so we used only select items as a unidimensional measure. We also found that SOC was not significantly related to sociopolitical action, but it was marginally significantly related to egalitarianism and perceived inequality. Furthermore, our analysis indicates that women were more likely to experience SOC when compared to men and Ukrainian speakers were more likely to experience SOC and be involved in sociopolitical action than Russian speakers. While marginally significant, we found that younger participants were more involved in sociopolitical action than older participants.

To our knowledge, no other study has examined CC and/or SOC in Ukraine. Given the lack of knowledge of our constructs of interest in Ukraine, we believe it was appropriate to explore CC and SOC using US-based measures. However, it is possible that the US model of CC and SOC did not fit in Ukraine because they may be defined differently in Ukraine. The dialogic and intersectional nature of CC and SOC mean they are each context specific. Individuals may be marginalized in one setting and more privileged in another. Our model of CC development predicts the possibility that CC may vary from setting to setting. While education settings have been a historical area for the enhancement of CC through critical pedagogy, a more traditional education setting may stunt CC (Diemer & Li, 2011). While the Shinn, Ezeofor, Smith, Welch, & Goodrich (2016) measure of CC was not yet available when we collected our data, it seems to offer a promising avenue for exploring intersectionality in CC research.

Given our aforementioned discussion, the measures we utilized have theoretical limitations and present limitations within the United States (see Diemer et al., 2014; Chipuer & Pretty, 1999). When discussing the recent development of the three measures of CC, including the CCS used here, Diemer and colleagues (2015) conclude "the extent to which the CCS…comprehensively measure CC across all social identities or domains cannot be assumed, and assessing the domain specificity of these new measures of CC is an important avenue for further exploration. (p. 10)." We recommend further testing of the CCS in Ukraine coupled with qualitative research to explore the role of context in CC.

The wide variability of constructs within the three recently developed scales of CC show that the concept is still under-theorized. Both within and outside of the field of psychology the process of CC development and structure of CC is still debated (Jemal, 2017). While a measure of CC is needed to assess the effectiveness of projects designed to enhance CC, the current measures, including the CCS may need alteration. For example, a primary area of current activism centers around sexual orientation and this is not included in the CCS critical action subscale. Further, the egalitarianism questions have behaved problematically in other research (Dimer et al., 2014). The egalitarianism sub-scale questions (e.g., it would be good if groups could be equal, group equality should be our ideal) seem to represent an ideal of society, as opposed to a realistic view. Further, the items could be seen to be related to a "color blind" ideology, which is not reflective of CC. While Diemer and colleagues (2015) state "Presumably, high egalitarianism scores would be associated with the endorsement of progressive social policies" (p. 817), agreeing that equality is good is not the same as supporting progressive social policies that may involve acknowledging and giving up privileges - these are much more advanced skills. Belief in equality does not necessarily translate into a complex and nuanced view of social, political, cultural, and historical constructs that created inequality nor efficacy and action to overturn these structures. Finally, the egalitarianism questions seem to reflect a simplistic interpretation of CC that has a likelihood of facilitating socially desirable responses and a ceiling effect in

pre-post measures. In other words, young people today may be likely to agree that equality is good, but this does not necessarily tell us anything about the more complex thoughts and actions involved in CC.
The critical action subscale of the CCS does not include individual level actions (Jemal, 2017) and rather focus entirely on collective action. While collective action is a core component of critical action, individual action may be the only possible action in highly controlling or repressive settings (Wallin-Ruschman et al., 2018) or among youth (Shinn et al., 2016). SOC based on the university community showed a decrease in perceived inequality and an increase in endorsement of egalitarianism and no relationships with sociopolitical action. Based on our model of the process of CC development, it was expected that a higher level of SOC and its associated emotional closeness would facilitate a higher level of perceived inequality. The finding of the opposite relationships combined with a higher level of endorsement of egalitarianism (which our model does not see as reflective of CC) suggests that generic SOC is not a good predictor of any subset of CC. However, an alternative explanation is that the logic of how SOC was to influence CC may have been misguided. For example, it was presumed that a heightened connection with others would make an individual more cognizant of unequal advantages/disadvantages between themselves and others or between groups in general. It is possible that participants used an in-group as a mental referent that was fairly homogenous and that feeling a SOC with that in-group served as a buffer to feelings of discrimination or inequality. If this was the case, we would expect individuals without a SOC, who are isolated or ostracized, to be more sensitive to perceive inequality. While unexpected, this finding does fit with the context specific nature of understanding CC development: "CC develops within the specific contexts that shape and constrain individual lives (Freire, 2000). It follows that levels of CC vary not only from person-to-person, but also within an individual across different domains" (Diemer et al., 2015, p. 3). Culture influences how people understand community and how one's SOC is measured (Chipuer & Pretty, 1999; Rivera-Segarra et al., 2016). Thus, SOC will differ from setting to setting (Hill, 1996). Further exploration of SOC both in Ukraine and in educational settings can enhance the understanding of this concept and further knowledge of its utility in understanding CC.

Our finding that women experience higher levels of SOC than men is consistent with prior research examining SOC and related concepts (e.g., social support) with gender differences. Generally, women tend to provide and use social support networks more than men (Ptacek, Smith & Zanas, 1992). Women tend to also have stronger social support networks (Denton et al., 2004) and report feeling loved more than men (Nakhaie & Arnold, 2010). More specifically, when looking at university student samples, women report higher levels of social support than men (Day & Livingstone, 2003; Nicpon, Huser, Blanks, Sollenberger, Befort, & Kurpius, 2006; Olson & Schultz, 1994). Given that our results are consistent with past research findings, it may be that women are socialized differently than men where women are taught to confide in others while men are expected to be independent (Day & Livingstone, 2003). Thus, it is possible that relationality is more important to women's CC development when compared to men. This finding mirrors Gilligan's (1982) model of moral development, which also focused on women, and found that for them morality was more a matter of interdependence and care as compared to Kohlberg's model of independence and justice. In practice this finding furthers our understanding of the contextual nature of CC development. Those wishing to facilitate CC development may need to consider the gendered ways in which connection and social support manifest differently both within and between men and women.

We also found that Russian speakers experience lower levels of SOC and are less engaged in sociopolitical action when compared to Ukrainian speakers. The data was collected in a Russian speaking city, so we would have expected Russian speakers to experience higher levels of SOC when compared to Ukrainian speakers. However, our results may be more telling of the sociopolitical context. Data was collected shortly after the Ukrainian territory of Crimea was annexed to Russia, and in reaction it is possible that Ukrainian speakers sought solidarity among each other. Alternatively, it may be that Ukrainian speaking students come from villages and small towns outside of Odessa, and therefore seek companionship with Ukrainian speaking students.

**Limitations**

A major limitation of this study was the use of measure developed with a United States sample and which was (to our knowledge at the time of data collection) previously untested in an international setting. It is hard to unpack the meaning of our results with this added constraint. Our study was also limited by our small sample size of 300, thus limiting the power of our analysis. Like any study, there are limitations to what we can conclude from our analyses. As stated earlier, the factor structures of the CCS and SOC-2 are not equivalent to the structure found in the United States. Given the problematic nature of both measures, numerous items were dropped from each measure. For example, the SOC-2 was made up of three of twenty-four items for our study. Given the limited number of items used to measure each construct (i.e., sociopolitical action, egalitarianism, perceived inequality, SOC), our measures may not represent all facets of each construct. Specifically, in regard to the SOC-2, we used the university community as the referent community, which may be too large. University students may not be familiar with all students on a large campus serving both undergraduate and graduate students. Thus, it may be fruitful to use a smaller community referent (e.g., dormitory residents, student organization members, classroom) so that participants are at least familiar with community members. This finding may be particularly relevant to those within higher education striving to build community among a large diverse campus. Even small campuses (e.g., 600-900 students) may be considered quite large compared to the smaller groups within which SOC is often studies and measured.

It is also possible that the CCS and SOC-2 measures missed important dimensions of CC and SOC, including those important to the Ukrainian cultural milieu. Qualitative research can aid in the discovery of such aspects. Additionally, according to Watts and colleagues (2011), CC has not yet fully developed given the limited amount of empirical studies examining CC. Second, we did not employ random sampling, but our response rate of 100% may help bolster confidence in the findings for the population sampled. Also, participants may have felt the need to provide socially desirable responses. However, all participants were assured confidentiality and anonymity, which may help reduce social desirability bias.

Given that measures assessing CC grounded in Ukrainian culture do not exist, the present study makes an initial contribution to our understanding of CC among youth in Ukraine. The results provide an understanding of college youth in Ukraine in relation to CC and SOC, and encourage future investigation to identify dimensions of CC important within a Ukrainian context for the creation of culturally grounded instruments and interventions. The present results and discussion also point out recommendations for future research to improve our understanding of how CC may be better understood and utilized within higher education settings.

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