

When the “We” Impacts How “I” Feel About Myself

Effect of Temporal Collective Relative Deprivation on Personal Well-being in the Context of Dramatic Social Change in Kyrgyzstan

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Abstract. Dramatic social change leads to profound societal transformations in many countries around the world. The two recent revolutions in March 2005 and April 2010, and the ethnic conflict in June 2010 in Kyrgyzstan are vivid examples. The present research aims to understand people’s reactions to dramatic social change in terms of personal well-being. To further understand how people react psychologically to dramatic social change, the theoretical framework of our research is based on a dominant theory in social psychology: Collective relative deprivation theory. In the past, researchers have argued that collective relative deprivation is logically associated with collective outcomes, and thus is not likely to impact personal well-being (e.g., Walker & Mann, 1987). Others, however, have argued that feelings of collective relative deprivation do impact personal well-being (e.g., Zagefka & Brown, 2005). We postulate that these inconsistent results arise because past research has failed to consider multiple points of comparison over time to assess collective relative deprivation. Specifically, we theorize that multiple points of collective relative deprivation need to be taken into account, and in so doing, collective relative deprivation will, indeed, be related to personal well-being. We also explore the entire trajectory of collective relative deprivation (which represents how an individual perceives the evolution of his/her group’s history across time) to predict personal well-being. In the present study, we tested these theoretical propositions in the context of dramatic social change in Kyrgyzstan. Regressions, group-based trajectory modeling, and MANOVA confirm our hypotheses.

Keywords: dramatic social changes, temporal comparisons, collective relative deprivation, well-being

In social psychology, *social change* is often considered to be a positive event. According to social identity theory (Tajfel, 1975, 1978; Tajfel & Turner, 1979, 1986), social change is the result of members of minority groups implementing strategies to achieve a positive social identity. Social change, then, occurs when minority group members engage in collective action to improve their group status. It is precisely through this process of social change by which Africans in South Africa increased their social status by forcing the fall of the apartheid, or that African Americans gained important civil rights in the United States.

Social identity theory’s view of social change is certainly relevant when considering positive collective action, but it is a limited perspective of social change. This limited definition neglects the reality faced by many people who are unwilling victims of social change. That is, social change is not always instigated by minority group members in an effort to improve their social identity. There are a variety of social changes that have affected a large number of

people against their will with little or no improvement to their social identity. The dismantlement of the Soviet Union, the impact of 9/11 on North America, the April 2010 revolution in Kyrgyzstan, or the 2010 earthquake in Haiti are prime examples of such social changes.

In response to this limited perspective on social change, we propose a broader conceptualization. We define social change as a collective phenomenon that involves changes to the entire community. Social changes thus affect the social structures of a community and may even change the course of its history (Rocher, 1992). Specifically, Parsons (1964) and Rogers (2003) emphasize that social change is the starting point for a breakdown in social equilibrium. Rogers goes even further by stressing that the equilibrium of the social structure may be threatened in circumstances when the change is too rapid to allow for effective adaptation by the community. In sum, social change can be positive, but is most often negative, and refers to “profound societal transformations that produce

a complete rupture in the equilibrium of social structures because their adaptive capacities are surpassed" (p. 325, de la Sablonnière, Taylor, Perozzo, & Sadykova, 2009).

Although social change impacts the everyday lives of millions of people in many parts of the world (Goodwin, 2009), it remains an understudied phenomenon in social psychology. Specifically, the psychological impact of social change on individuals has been especially neglected (Moghaddam, 1990, 2002; Moscovici, 1972; Rogers, 2003; Tajfel, 1972). According to Rogers (2003), its psychological impact remains little understood because accessing people undergoing dramatic social change is a major challenge. Simply stated, the study of social change is difficult because it requires working in very challenging social contexts.

The present research aims to fill this gap by focusing on individual reactions to dramatic and sudden social change. Specifically, we intend to study people's reactions to dramatic social change in terms of personal well-being in the context of Kyrgyzstan. Kyrgyzstan is a country located in Central Asia that has been challenged by a series of dramatic social changes over the last century. Kyrgyzstan was initially part of the Russian Empire but after the Russian Revolution it became one of the 15 Soviet Republics. Following the breakdown of the Soviet Union in 1991, the people of Kyrgyzstan faced enormous challenges. On the 24th of March 2005, the Tulip Revolution resulted in the overthrow of the supposedly corrupt government of Akayev. Unfortunately, instead of improving conditions in Kyrgyzstan, the Tulip Revolution only exacerbated its political instability (Radniz, 2006) to the point that the people of Kyrgyzstan formed a movement to overthrow the government. In April 2010, protests in Kyrgyzstan, generated by extreme poverty, rising prices and corruption, threatened the stability of the former Soviet Republic. Many were killed and many more were injured (Associated Press, 2010). In June 2010, there was an outburst of ethnic conflicts in Kyrgyzstan.

The general goal of our paper is to understand how dramatic social changes that affect a group can also influence individuals in terms of their personal well-being. The most common way to conceptualize personal well-being is through the concept of subjective well-being (SWB). SWB is commonly defined as people's general emotional and cognitive evaluation of their own lives (Diener, Suh, Lucas, & Smith, 1999).

The theoretical framework for our research is based on a dominant theory in social psychology: Collective relative deprivation theory (Runciman, 1966, 1968). In the past, researchers have argued that collective relative deprivation is logically associated with collective outcomes such as negative collective well-being, but not necessarily associated with negative personal well-being (Pettigrew et al., 2008; Runciman, 1966; Walker & Mann, 1987). Nevertheless, the research literature yields very inconsistent results (e.g., Walker & Mann, 1987; Zagefka & Brown, 2005). To resolve these inconsistencies and understand the role of personal well-being, we theorize that collective relative deprivation needs to be addressed using a historically based perspective. That is, we need to focus on collective relative deprivation at several key historical points in order to accurately predict personal well-being. In doing so, it is possible to assess the entire

"trajectory" of collective relative deprivation, which represents the way people perceive the overall evolution of their group's condition over time. We will argue that collective relative deprivation measured at several key historical points as well as the entire trajectory of collective relative deprivation will indeed be associated with personal well-being.

Collective Relative Deprivation Theory

Collective relative deprivation refers to feelings of dissatisfaction that group members may experience as a result of unfavorable group comparisons (Crosby, 1976; Olson & Hafer, 1996; Runciman, 1966; Walker & Pettigrew, 1984). According to collective relative deprivation theory, people assess their group's condition by comparing it to subjective standards of comparisons rather than objective ones (Walker & Pettigrew, 1984). There are two kinds of subjective standards for comparisons: Social comparisons and temporal comparisons. Social comparisons involve group members evaluating the status of their group by comparing it to another group (Festinger, 1954). In the case of temporal comparisons, group members evaluate their group's status by comparing it with what it was at another point in time (Albert, 1977).

A large body of research has revealed that in times of rapid social change, temporal comparisons are more important than social comparisons (Albert, 1977; de la Sablonnière, Tougas, & Lortie-Lussier, 2009; Mummendey, Mielke, Wenzel, & Kanning, 1992). To adapt to their drastically changed social environment, individuals tend to reevaluate their group condition by comparing their present group's status with their group's status at another point in time (Albert, 1977; Albert & Sabini, 1974; Brown & Middendorf, 1996; Mummendey et al., 1992). This is because dramatic social change destabilizes many aspects within their current environment (Albert & Sabini, 1974), making social comparisons more difficult. Therefore, it is easier for group members to compare their current condition to a more familiar situation, such as their own group condition in the past. In the present research, then, we focus on feelings of temporal collective relative deprivation that arise as a result of unfavorable group comparisons across time.

Collective Relative Deprivation and Personal Well-Being

The voluminous literature on collective relative deprivation confirms that feeling group deprived is related to *collective* outcomes. For instance, collective relative deprivation has been found to be a key predictor of collective action (Guimond & Dubé-Simard, 1983; Gurr, 1970; Walker & Mann, 1987), negative intergroup attitudes (Appelgryn & Nieuwoudt, 1988; Dambrun & Guimond, 2001; Pettigrew & Meertens, 1995; Vanneman & Pettigrew, 1972), and collective well-being (Bougie, 2005; de la Sablonnière, Tougas et al., 2009; Tougas & Beaton, 2002; Walker, 1999; see also Branscombe, Schmitt, & Harvey, 1999; Jetten, Branscombe, Schmitt, & Spears, 2001).

In the past, it has been argued that collective relative deprivation is logically associated with collective outcomes, and thus it is not likely to impact *personal* well-being (Pettigrew et al., 2008; Runciman, 1966; Walker & Mann, 1987). For example, a meta-analytic review (Smith & Ortiz, 2002) demonstrated the absence of a strong relationship between collective relative deprivation and personal outcomes such as self-esteem, physical stress, and psychological depression. Nevertheless, the literature yields inconsistent results. While some studies demonstrate that collective relative deprivation is not related to personal outcomes (Smith & Ortiz, 2002; Walker, 1999; Walker & Mann, 1987), others have shown that feelings of relative deprivation at the collective level do affect personal well-being (Bougie, 2005; Walker, 1999; Zagefka & Brown, 2005; see also Taylor, 1997, 2002 who argues that the collective affects the personal). For example, Walker (1999) demonstrates that women, who as a group felt unfairly rewarded (e.g., collective relative deprivation), showed a decrease in personal self-esteem.

In the present research, we attempt to bring order to this inconsistent literature involving personal well-being by suggesting that we need to consider collective relative deprivation using a historical perspective to accurately predict personal outcomes. Despite the fact that it is well established that feelings of collective relative deprivation are context-dependent (Stouffer, Suchman, DeVinney, Star, & Williams, 1949; Walker & Pettigrew, 1984; see also de la Sablonnière, Tougas, & Perenlei, 2010), most research on collective relative deprivation has not considered the sociohistorical context in which individuals live. Indeed, past research has evaluated collective relative deprivation using either a unique arbitrary point in time or a very vague definition of time such as “the past” (Abeles, 1976; Appelgryn & Bornman, 1996; Brown & Middendorf, 1996; Dambrun, Taylor, McDonald, Crush, & Méot, 2006; de la Sablonnière, Tougas et al., 2009; Guimond & Dambrun, 2002; Olson, Roese, Meen, & Robertson, 1995; Pettigrew et al., 2008; Tougas, de la Sablonnière, Lagacé, & Kocum, 2003; Van Dyk & Nieuwoudt, 1990; Vanneman & Pettigrew, 1972). For example, Van Dyk and Nieuwoudt (1990) asked Afrikaans-speaking women to evaluate how good their group economic, social, and political situations were 5 years ago. Although useful, the arbitrarily chosen 5-year point might not correspond to the reality of the participants’ history. Indeed, there are certain points in the history of a group that are perceived as more important than others in the definition of a group’s history (de la Sablonnière, Taylor et al., 2009; Liu & Hilton, 2005). For example, if we were to ask Jewish people to compare their present group situation with a point in the past, they would likely refer to the Holocaust period of their history. This same rationale applies to many other groups such as Africans in South Africa who would likely choose the apartheid period as an important comparison point to define their current group status.

Theorizing from both classic (Davies, 1962, 1969; Grofman & Muller, 1973) as well as a recent reconceptualization of relative deprivation theory (de la Sablonnière, Taylor et al., 2009), we argue that multiple defining points of comparison in a group’s history need to be examined

when assessing relative deprivation. We argue that each of the temporal comparison points provides important insight into how people cope with dramatic social change. Accordingly, using *multiple comparison points* instead of a single one is necessary in order to fully understand people’s personal well-being. For example, if we were to take the example of Africans in South Africa, we would argue that the way in which they perceive their group’s social condition at different points in time is important. Specifically, we might ask them to evaluate the situation of their group before the apartheid period, during the apartheid, at the fall of apartheid, at the present time, and in the near future.

Hypotheses

In the present paper, we propose three hypotheses regarding the importance of taking into account several points of comparison instead of a single point in time (e.g., Abeles, 1976; Dambrun et al., 2006; de la Sablonnière, Taylor et al., 2009).

Hypothesis I: We predict that assessing collective relative deprivation using *multiple points* of temporal comparison will provide a better prediction of personal well-being compared to the traditional method of using a single point in time.

Empirical findings are consistent with the proposition that each comparison point in the history of a group does not have the same importance in predicting well-being at the collective level (de la Sablonnière, Taylor et al., 2009). Indeed, since there are some points in the history of a group that are more important than others (Liu & Hilton, 2005), collective relative deprivation experienced at each point will have a different effect on well-being (see de la Sablonnière, Taylor et al., 2009). Considering the results of previous research, we argue that each point will not predict personal well-being in the same way. Therefore, using several points of comparison instead of a single one will allow us to better understand which historical period is more important for understanding personal well-being.

Hypothesis II: We predict that each point of comparison will provide a distinct insight into people’s personal well-being. Specifically, we expect that the relation between collective relative deprivation and personal well-being will be different for each comparison point.

To further take advantage of using multiple points of comparison, we also propose to explore the entire trajectory of collective relative deprivation across time. In contrast with the traditional approach to relative deprivation where the focus is on a single point of comparison (Abeles, 1976; Dambrun et al., 2006; de la Sablonnière, Tougas et al., 2009; Taylor, Neter, & Wayment, 1995; Tougas et al., 2003; Walker & Mann, 1987; Wayment & Campbell, 2000), a trajectory of relative deprivation takes into account

several comparison points over key historical events across time (de la Sablonnière, Taylor et al., 2009). The trajectory of group-based relative deprivation represents how an individual perceives the evolution of his/her group's whole history across time. Considering that people from the same ingroup sometimes perceive events that characterize their group history in dramatically different ways (Huang, Liu, & Chang, 2004; Liu, Wilson, McClure, & Higgins, 1999), different trajectories of relative deprivation can thus emerge from the same group of people. Studying the distinctiveness between such trajectories is all the more important as different levels of well-being have been associated with these (de la Sablonnière, Taylor et al., 2009).

Furthermore, the trajectories of relative deprivation also provide two other important key features necessary to understand how an individual perceives the evolution of his group: (1) the level of relative deprivation and (2) the changes in relative deprivation across time. We believe the latter aspect to be particularly important in a context of dramatic social changes. Indeed, each historical period might be associated with a change in terms of relative deprivation (i.e., either a decrease or an increase of relative deprivation compared to a previous historical period). That is to say, beyond the level of relative deprivation across time, the trajectory illustrates how one perceives that the condition of one's group has, or is expected to, improve and/or deteriorate throughout history. The trajectory is the only method that captures the information about the rate of change of relative deprivation across time. Going back to the example of Africans in South Africa, we would ask them to evaluate the *evolution of their group* (i.e., how it has improved or deteriorated) during the apartheid period, at the fall of apartheid, at the present time, and in the near future. The trajectory thus considers the historical context in which the feelings of collective relative deprivation have emerged.

In past research, the trajectory of collective relative deprivation has only been tested for collective outcomes (Davies, 1962, 1969; de la Sablonnière, Taylor et al., 2009; Grofman & Muller, 1973). For instance, Grofman and Muller (1973) demonstrate that different trajectories of collective relative deprivation are associated with different degrees of political violence intentions. For the present research, we will extend previous findings by examining the impact of the trajectory of collective relative deprivation on personal well-being.

Hypothesis III: We hypothesize that the entire trajectory of collective relative deprivation perceived across one's group history will indeed be related to personal well-being.

Method

Participants

The sample was comprised of 588 participants of Kyrgyz nationality. Participants were recruited from different

colleges and universities in the city of Bishkek, Kyrgyzstan. All participants completed a questionnaire between April 12 and May 14, 2005, after the Tulip Revolution, a movement that overthrew President Akaev and his government on March 24, 2005. This study is part of a larger longitudinal study, and research assistants responsible for the questionnaire distribution were fluent in both Russian and Kyrgyz. A total of 743 students answered the questionnaire. However, because most of our questions focused on Kyrgyz collective relative deprivation, only the students of Kyrgyz nationality were included in our analysis (588; 79.1%). Participants of other nationalities such as Russians or Kazakhs (121; 16.3%) and those who did not report their nationality (34; 4.6%) were thus not included in the final sample.

The final sample included 401 women and 173 men, and participants' ages varied between 16 and 60 years ($M = 19.83$; $SD = 2.38$). More than half of the sample (i.e., 58.0%) identified Kyrgyz as their best spoken language, 16.5% of participants identified Russian as their best language, and 12.3% referred to both Russian and Kyrgyz as their best spoken language. A minority of Kyrgyz (i.e., 13.9%) also identified English, German, Chinese, Arabic, or Uzbek as their best spoken language or did not report it. Most participants reported to have a mother of Kyrgyz nationality (96.9%) and a father of Kyrgyz nationality (98.8%).

Measures

The questionnaire was first translated from English into the two most widely used languages in Kyrgyzstan: Kyrgyz and Russian. A back-to-back translation procedure was used to ensure an appropriate correspondence between items (Brislin, 1970). The English questionnaire was first translated into Russian using the back-to-back translation procedure, and then, the Russian questionnaire was translated into Kyrgyz.

The present study focused on perceptions of temporal collective relative deprivation regarding political influence and personal well-being. Specifically, our independent variables involved a measure of temporal collective relative deprivation regarding political influence. Two dependent variables were used to assess personal well-being: (1) personal self-esteem and (2) positive attitude toward life. Sociodemographic questions such as nationality, date of birth, gender, best spoken language, and the nationality of participants' mother and father were also included in the questionnaire.

For all constructs assessed in the present study it was crucial to make questions short, clear, and concrete. Participants were unaccustomed to social science research and thus required considerable guidance in the process.

Independent Measures

Temporal collective relative deprivation was evaluated using one item derived from previous scales (Guimond & Dambun, 2002; Guimond & Dubé-Simard, 1983; Pettigrew & Meertens, 1995; Runciman, 1966). Since past research

has demonstrated a strong correlation between the cognitive and affective components of temporal collective relative deprivation ($r = .89$, $p < .01$, de la Sablonnière, Tougas et al., 2009), only the cognitive component was evaluated to reduce the length of the questionnaire. Participants had to evaluate retrospectively whether their group condition had improved or deteriorated between two adjacent historical periods. The five historical transitions retained for the present study were determined using focus groups that were conducted with Kyrgyz and Russian scholars of Kyrgyz nationality. The historical periods were selected because it was agreed that these periods were key events that marked the history of Kyrgyzstan over the last century. From these focus groups, five important historical transitions were identified: (1) the Pre-Soviet to Soviet period; (2) the Soviet to Early Independence period; (3) Early Independence to Present Period (2005); (4) Present to Near Future period (in 1 year from now); and (5) Present to Distant Future period (i.e., 10 years from now).

Temporal collective relative deprivation was assessed by focusing on the political influence of group members on their own government. Specifically, one item on the perception of political influence was used to evaluate temporal collective relative deprivation. Participants had to indicate on an 11-point Likert-type scale ranging from (0) (definitely deteriorated) to (10) (definitely improved), "how did the opportunities change for the Kyrgyz people to influence their own government in the (Soviet) period compared to the (Pre-Soviet) period?" Responses to this item were recorded so that higher scores represented more temporal collective relative deprivation.

Dependent Measures (Personal Well-Being)

Personal well-being was evaluated using two different measures in order to ensure the stability of our results: Personal self-esteem and Positive attitude toward life. These two measures were positively correlated ($r = .49$, $p < .001$).

Personal Self-Esteem

Personal self-esteem was assessed using Rosenberg's Self-Esteem scale (Rosenberg, 1965). Our choice to evaluate personal well-being using this scale was based on a study conducted by Schimmack and Diener (2003), which showed that explicit self-esteem (Rosenberg's Self-Esteem scale) was a significant predictor of SWB, both self-reported and informant reported. Specifically, explicit self-esteem was correlated with the three components of SWB which included life satisfaction, positive affect, and negative affect (Diener & Diener, 1995; Schimmack & Diener, 2003). Since participants were not accustomed to answering questionnaires and in order to limit the number of items, we opted for a unique measure that had been shown to be highly correlated with SWB measures. Participants had to indicate on an 11-point Likert-type scale ranging from 0 (strongly disagree) to 10 (strongly agree) the extent to which they agree with 9 items. For instance, participants were asked to answer

the following three questions: "I feel I have a number of good qualities," "I am able to do things as well as most other people," and "I positively evaluate myself." Internal consistency for this scale is 0.73.

Positive Attitude Toward Life

A second measure of personal well-being was obtained using the positive attitude toward life scale from the Berne Questionnaire of Adolescent's SWB (Grob, Little, Wanner, & Wearing, 1996). This scale has proved to be a reliable and valid measure of SWB in former socialist countries (Grob, 1998). Participants had to indicate on an 11-point Likert-type scale ranging from 0 (strongly disagree) to 10 (strongly agree), the extent to which they agree with the following statements: (1) "My future looks good," (2) "I enjoy life more than most people," (3) "Whatever happens, I see the bright side," (4) "I am happy to live," and (5) "My life runs on the right track." Internal consistency for this scale is 0.60.

Data Analysis Strategy

Our first two hypotheses were tested simultaneously with two hierarchical regressions, one for each dependent variable. Firstly, to demonstrate that personal well-being is better predicted by assessing collective relative deprivation at *several comparison points* rather than at a single point in time (Hypothesis 1), a regression was performed involving two steps. Because the traditional approach used a *single recent point* in the past to assess collective relative deprivation, the first step of the regression analyses included the traditional most recent point in the past. In the specific context of the present study, the traditional most recent point in the past refers to the transition between the Early independence period and the Present. The second step introduced all other points of comparison that are normally not considered in the traditional approach. Our aim was to demonstrate that evaluating *multiple points of comparison* when predicting personal well-being explained more variance in personal well-being than when a single point of comparison alone is considered.

Secondly, the same two hierarchical regression analyses allow us to test our second hypothesis, which is that some comparison points will be more associated with personal well-being than others. Indeed, since all historical periods might not be judged as similarly important by group members (e.g., de la Sablonnière, Taylor et al., 2009; Liu & Hilton, 2005) the five temporal measures of collective relative deprivation taken separately might relate differently to personal well-being. Regression coefficients of the hierarchical regression analyses in Step 2 quantify the strength of the relationship between collective relative deprivation measured at each specific point in time and personal well-being. Hierarchical regression analyses thus allow us to test the importance of each of the points of comparison in predicting personal well-being.

Thirdly, we wish to statistically identify the trajectory of perceived collective relative deprivation. We thus submitted the data to group-based trajectory modeling (Jones & Nagin, 2007; Jones, Nagin, & Roeder, 2001; Nagin, 1999, 2005;

Nagin & Land, 1993; Roeder, Lynch, & Nagin, 1999). Group-based trajectory modeling is a semiparametric statistical approach that identifies the group trajectories that best describe the data. Specifically, finite mixtures of specified probability distributions are used to determine, by maximum likelihood, the parameter estimates of the model that best fit the data (Jones & Nagin, 2007; Nagin, 1999, 2005). Group-based trajectory modeling relies on a multinomial equation that allows us to identify clusters of individual trajectories within the population. The clusters of individual trajectories that emerge from the data are created by regrouping individuals with a similar individual trajectory. In the specific context of the present study, this analysis can thus determine how many trajectories arise from our retrospectively reported measures of collective relative deprivation for each historical period of transition (Nagin, 1999). Moreover, it is possible to examine both the level of relative deprivation and the changes in relative deprivation across time for the different trajectories.

After having created the trajectories of collective relative deprivation, we are positioned to determine their impact on personal well-being. Since group-based trajectory modeling also calculates the posterior probability of an individual belonging to one or other of the estimated trajectories, each respondent can be assigned to the group trajectory with the highest posterior probability of belonging (Nagin, 2005). Thus, using individual group membership, analysis of variance was performed to examine differences between group trajectories on personal well-being. Specifically, a *Multivariate Analysis of Variance* (MANOVA) was conducted to assess if belonging to a certain trajectory of collective relative deprivation is associated with people's self-esteem and positive attitude toward life.

Results

Preliminary Analyses

Preliminary analyses revealed that all measures fell within an acceptable kurtosis and skewness range -0.71 to $+1.21$ ensuring that the data followed a normal distribution (Tabachnick & Fidell, 2007). Participants with scores that

deviated by more than three standard deviations from the variable mean and showed a Mahalanobis distance greater than the exclusion criterion set at $p < .001$ were first identified. In all, four participants were identified as outliers based on these criteria. Analyses were conducted with and without these outliers. Since the results remained unchanged by the presence of these outliers, they were retained in the final sample. However, 12 participants were removed from further analyses because more than 50% of their values were missing. For the remaining cases, missing values were replaced by simple imputation using the PROC MI procedure in SAS. Overall, 576 participants in our initial sample of 588 were retained for analyses. Considering that no correlations were higher than 0.90, no problems of multicollinearity and singularity were observed (Pallant, 2005; Tabachnick & Fidell, 2007). Means and standard deviations for all variables are shown in Table 1.

Step 1: Hierarchical Regression Analyses (Hypotheses I and II)

Two hierarchical regression analyses were conducted to demonstrate that personal well-being is better predicted by assessing relative deprivation at several points in time rather than at a single point. Results from the hierarchical regression analyses supported our first hypothesis. Table 2 displays the unstandardized coefficients (B), the standardized coefficients (β), and the standard errors of the regression coefficients ($SE B$), for all collective relative deprivation variables used to predict personal self-esteem and positive attitude toward life. Regression analyses indicate that the traditional approach to assessing relative deprivation across time (Step 1: the single most recent past comparison) was significantly related to our two personal well-being measures. However, results further showed that including *multiple points* of comparison significantly improved the predictive value of collective relative deprivation on both personal self-esteem and positive attitude toward life, increasing the total variance explained. For instance, when we included the recent past in the first step of the regression analysis, it significantly predicted personal self-esteem, $\beta = -.12$, $p < .01$. However, collective relative deprivation scores based on the other historical periods entered together

Table 1. Means, standard deviations (in parentheses), and correlations between independent and dependent variables

Variables		Descriptive	Correlations between variables						
			1.	2.	3.	4.	5.	6.	7.
Temporal collective relative deprivation	1. Pre-Soviet to Soviet	3.64 (2.35)	–	.10*	.09*	.11**	.17**	.05	–.03
	2. Soviet to early independence	3.61 (2.23)		–	.29**	.17**	.09*	–.13**	–.12**
	3. Early independence to present	3.21 (2.43)			–	.28**	.21**	–.12**	–.13**
	4. Present to near future	3.43 (1.88)				–	.51**	–.11**	–.11**
	5. Present to distant future	2.77 (1.85)						–.10*	–.14**
Consequences	6. Personal self-esteem	7.24 (1.52)						–	.49**
	7. Positive attitude	7.90 (1.46)							

Note. * $p < 0.05$. ** $p < 0.01$.

Table 2. Summary of hierarchical regression analyses when predicting personal well-being from collective relative deprivation measured at several points in time

Collective relative deprivation	Personal self-esteem			Positive attitude		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Step 1						
Early independence to present	-.08	0.03	-.12*	-.08*	.03	-.13*
Step 2						
Early independence to present	-.05	.03	-.07	-.05	.03	-.08
Pre-Soviet to Soviet	.05	.03	.08*	.00	.03	.01
Soviet to early independence	-.07	.03	-.10*	-.05	.03	-.08
Present to near future	-.04	.04	-.05	-.02	.04	-.03
Present to distant future	-.05	.04	-.06	-.08*	.04	-.10*

Note. For personal self-esteem, $R^2 = .02$ for Step 1 ($p < .01$); $\Delta R^2 = .02$ for Step 2 ($p < .05$). For positive attitude, $R^2 = .02$ for Step 1 ($p < .01$); $\Delta R^2 = .02$ for Step 2 ($p < .05$).

* $p \leq .05$.

had a significant predictive value on personal self-esteem independent of the traditional single point in the past, $\Delta R^2 = 0.02$; $F_{\text{step}2}(5, 570) = 4.36$, $p < .01$. Furthermore, adding several points of comparison rendered the traditional most recent past nonsignificant in terms of predicting personal self-esteem ($\beta = -.12$, $p < .01$ drops to $\beta = -.07$, $p = ns$). Results were similar for the positive attitude toward life scale.

Results from hierarchical regression analyses also support our second hypothesis according to which each point of comparison will be related differently with personal well-being. Inspection of regression coefficients in step 2 indicates that each point of comparison predicts differently personal well-being. However, each individual collective relative deprivation measure had a very moderate, and often nonsignificant, association with personal well-being. The standardized beta ranged from .01 to $-.10$, and only two out of five of the temporal points of comparison on the dependent variables were significant. Indeed, as shown by the standardized coefficients (β) in Table 2, results reveal that taken separately, the five measures of collective relative deprivation predict modestly personal well-being. In sum, regression coefficients demonstrate that each point of comparison has a different weight in the prediction of personal well-being which reinforces the importance of assessing collective relative deprivation with multiple and significant points of comparison over time.

Step 2: Creating the Group Trajectories (Hypothesis III)

In order to test our third hypothesis that the entire trajectory of collective relative deprivation predicts personal well-being, we identified retrospective group trajectories using group-based trajectory modeling (Jones & Nagin, 2007; Jones et al., 2001; Nagin, 1999, 2005; Nagin & Land, 1993; Roeder et al., 1999). The procedure used to identify group-based trajectories follows the one proposed by Nagin (2005).

Figure 1 illustrates the estimated trajectories of collective relative deprivation of Kyrgyz participants regarding their perceptions of the political influence group members could exercise on their own government across all historical periods. The optimal model is comprised of two main trajectories: a high trajectory of collective relative deprivation and a low trajectory of collective relative deprivation. The high trajectory follows a quadratic function (a parabola) and the low trajectory follows a cubic function over time. Accordingly, compared to the high trajectory of relative deprivation, perceiving the low trajectory of collective relative deprivation is also associated with perceiving more changes in relative deprivation (i.e., the trajectory is characterized by a decrease in relative deprivation level, followed by an increase, and then another decreased).

Firstly, the majority of Kyrgyz people (i.e., 67.2%, $n = 396$) perceived that Kyrgyz political influence upon their own government followed a high trajectory of collective relative deprivation over time. These respondents perceive a trajectory of collective relative deprivation corresponding to the pattern of expected impacts brought about by the politically negative social changes impacting Kyrgyzstan over the last century. They perceived that the influence upon their own government improved from the Pre-Soviet to Soviet periods. However, they perceived that it had not improved much from the Soviet and Early Independence periods. Those Kyrgyz perceiving the high trajectory of collective relative deprivation expect that their political influence on their own government will improve the most in 1–10 years after the time of the study in 2005.

Secondly, as illustrated in Figure 1, there is also a sizeable minority of Kyrgyz who perceived a low trajectory of collective relative deprivation (i.e., 32.8%, $n = 180$). In their opinion, the influence of Kyrgyz people on their government greatly improved from the Pre-Soviet to the Present periods. However, they believed that Kyrgyz influence upon their own government will be improving even more in the next 10 years. Results are concordant with those obtained by de la Sablonnière, Taylor, and colleagues (2009) regarding the pattern for Kyrgyz's perception of their group's economic well-being across time.

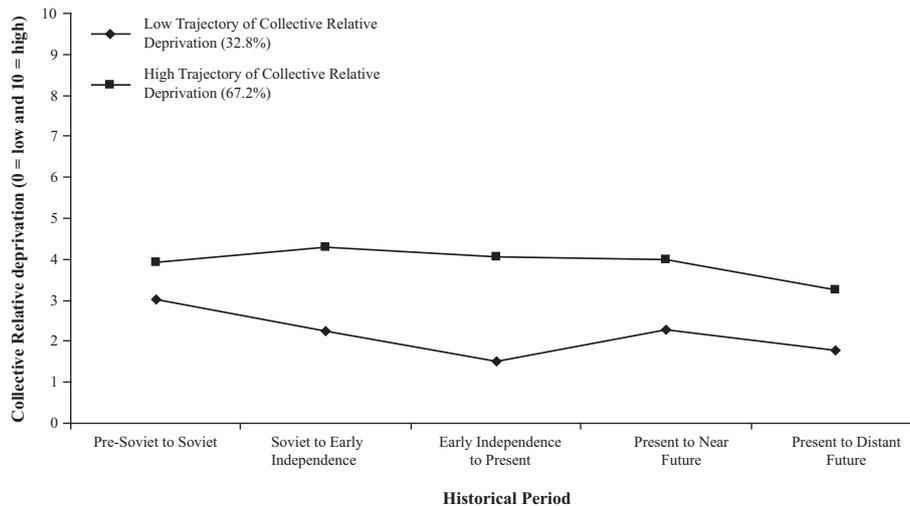


Figure 1. Trajectories of collective relative deprivation regarding political influence of Kyrgyz people on their own government from the pre-Soviet period to the distant future period.

Table 3. Means, standard deviations, and univariate effects of group trajectory on personal well-being

Dependent measures	High trajectory (67.2%) <i>M (SD)</i>	Low trajectory (32.8%) <i>M (SD)</i>	<i>F</i> (1, 574)	<i>p</i>	η^2
Personal well-being					
Personal self-esteem	7.11 (1.51)	7.53 (1.50)	9.67	< .01	.02
Positive attitude	7.77 (1.48)	8.20 (1.36)	11.09	< .001	.02

Step 3: Multivariate Analysis of Variance

Since group-based trajectory modeling identified two different trajectories of collective relative deprivation that might capture respondents' perceptions, we aimed at exploring the extent to which these different trajectories of collective relative deprivation predict personal well-being. Previous analyses had been conducted to ensure that the predictive effect of the trajectories of collective relative deprivation on personal well-being was not accounted for by personal relative deprivation, since personal relative deprivation has been associated with personal well-being (e.g., Walker, 1999; Zagefka & Brown, 2005). Two ANCOVAs were conducted (i.e., one for each of our dependent variables) to test whether membership in a group trajectory of collective relative deprivation is associated with personal well-being even after controlling for personal relative deprivation. The results obtained remained unchanged even after controlling for the level of personal relative deprivation felt. Since the results were the same for collective relative deprivation with and without personal relative deprivation, we report the results without the covariate.

A MANOVA was thus conducted to evaluate if perceiving the low trajectory of collective relative deprivation is associated with higher levels of personal well-being when compared to those who perceive the high trajectory of collective relative deprivation. Results are displayed in Table 3 where a MANOVA revealed a main effect for trajectory group membership on personal well-being (Wilk's $\lambda = .98$, $F(2, 573) = 7.00$, $p < .001$, $\eta^2 = .024$). Univariate analysis revealed a significant main effect for group membership

on both measures of personal self-esteem ($F(1, 574) = 9.67$, $p < .01$, $\eta^2 = .02$) and positive attitude toward life ($F(1, 574) = 11.09$, $p < .001$, $\eta^2 = .02$). Results show that Kyrgyz who perceived the low trajectory of collective relative deprivation have higher levels of personal self-esteem ($M = 7.53$; $SD = 1.50$) compared to those who perceived the higher trajectory of collective relative deprivation ($M = 7.11$; $SD = 1.51$). Similarly, the results reveal that mean differences are significant for positive attitude toward life. However, as revealed by the effect size, the association between group trajectory and personal well-being is modest.

Discussion

Dramatic social change is a reality that impacts millions of people every day in every part of the world. Clearly, the topic has not received the attention it deserves in the social psychological literature (Rogers, 2003). A broad goal of the present research was to contribute to the limited number of studies on how people react to drastic societal changes (see Moghaddam, 1990, 2002; Moscovici, 1972; Rogers, 2003; Tajfel, 1972).

The first contribution of the present research is that it has shed some light on the conflicting literature regarding the link between collective relative deprivation and personal outcomes. Prior to the present research, it was well established that collective relative deprivation is associated with collective outcomes, such as collective action (Guimond & Dubé-Simard, 1983) and does not impact personal well-being

(Runciman, 1966; Smith & Ortiz, 2002; Walker & Mann, 1987). However, the present study illustrates that in a complex situation like that of dramatic social change, it is very likely that collective relative deprivation does impact personal well-being. Specifically, we demonstrated how using a historically based perspective to assess collective relative deprivation can improve our understanding of personal well-being. Indeed, using only one point in time can be compared to taking a single snapshot (e.g., Abeles, 1976; Appलगryn & Bornman, 1996; Dambun et al., 2006; Wayment & Campbell, 2000), and thus cannot accurately represent the reality of individuals facing a significant social change (see also de la Sablonnière, Taylor et al., 2009). Therefore, it is necessary to consider several important historical points to appreciate the influence of collective relative deprivation at a personal level in times of social change.

The present study also highlights the advantage of examining the entire trajectory of collective relative deprivation to accurately predict personal well-being. Indeed, since social change also drastically impacts one's group history, the present study demonstrates that the entire history behind the feeling of collective relative deprivation needs to be considered to fully understand how people react at the personal level. In doing so, collective relative deprivation accurately predicts personal psychological well-being. We relied on past experimental studies in the field of relative deprivation (e.g., Walker, 1999) to argue that feelings of relative deprivation predict personal well-being, and not the inverse. Because our study is cross-sectional, it is impossible to determine if it is indeed the level or the shape of relative deprivation trajectories that are the cause of well-being. Future studies should aim at manipulating both the level and the shape of relative deprivation trajectories in order to fully understand their causal role.

Future Directions and Implications

We propose several directions for future research. First, to understand more fully people's reactions to social change, future studies need to focus on the entire trajectory of relative deprivation at the personal level. To date, only the consequences of a group's trajectory of relative deprivation on personal well-being and collective well-being have been addressed. However, a voluminous literature on relative deprivation theory has confirmed that feeling personally relatively deprived leads to detrimental effects on personal well-being (Crosby, 1976; Suls, Marco, & Tobin, 1991; Walker, 1999; Zagefka & Brown, 2005). Accordingly, it would be important for future studies to directly assess the extent to which the entire trajectory of relative deprivation at the personal level predicts personal well-being, and how it interacts with collective relative deprivation.

Additionally, from a methodological perspective, the present study demonstrates the importance of considering multiple points of comparison as well as the entire trajectory of relative deprivation when investigating the relationship between temporal as well as social-temporal comparisons and psychological well-being, either at the personal or group

level. For instance, many points of comparison should be evaluated to better understand how disadvantageous social comparisons lead to different outcomes. For example, it would be interesting to explore if social comparisons made at different points in time, for example Russians compared to Kyrgyz in the present and past, would also demonstrate a connection between collective temporal relative deprivation and personal well-being.

The present research has practical implications. Understanding people's reactions to drastic societal change is becoming an increasingly important issue in the modern world because incidences of social change will not decrease in the years to come. Kyrgyzstan, for one, has been recently shaken by more turmoil threatening the stability, as well as the security of the former Soviet Republic. Antigovernment protests in Kyrgyzstan even forced the government to declare a state of emergency in April 2010, and more recently, in June 2010, was affected by important ethnic conflicts. Furthermore, Haiti has just confronted social change as a result of the earthquake in 2010, and this following decades of instability, dictatorship, rebellion, and natural disasters brought upon a frail structure to the country. As illustrated by these two examples, the relentlessness of social change highlights the relevance and need to understand how individuals react to dramatic social change.

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