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Cross-national differences in risk preference and individual deprivation: A large-scale empirical study

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ABSTRACT

Although risk-taking has been found to be associated with economic deprivation, there is little evidence on whether the relationship between individual deprivation and propensity for risk-taking is inherent to all individuals, or varies across cultural contexts. Consequently, the present study investigated the interaction effects of macroeconomic factors [Gross Domestic Product (GDP) per capita and Human Development Index (HDI)] in the relationship between individual deprivation and propensity for risk-taking using the World Values Survey data from 58 countries (N = 87,223). On average, individuals in more developed countries (higher HDI) had less propensity for risk-taking. However, in contradiction to this, the positive association between individual deprivation and risk-taking was stronger in countries with higher GDP per capita. The present study suggests that the association between individual deprivation and propensity for risk-taking varies with environmental variables assessing the socio-economic development of a country.

1. Introduction

Attitudes towards risk are relevant for almost all important group or individual decisions. Furthermore, there is a great interest among social science researchers concerning unhealthy and/or problematic behaviors, investment behavior, job choices, education decisions, and social interactions associated with risk-taking (Figner & Weber, 2011; Vieider, Chmura, et al., 2015). Despite their importance, little is known about whether risk preferences are associated with country characteristics, such as the level of economic development (Falk, Becker, Dohmen, Enke, & Huffman, 2015). In addition, although risk-taking has been found to be associated with personal characteristics (i.e., gender, age and individual income), there is little evidence on whether such relationships are universal or context-specific (Falk et al., 2015; Mata, Josef, & Hertwig, 2016). The present study aimed to investigate the propensity for risk-taking on a global basis considering both the country and individual levels.

2. The context of risk-taking

The most recent global economic crisis started in 2008 and exacerbated changes in living and working conditions, decreased national wealth and public social spending (De Vogli, Vieno, & Lenzi, 2014; Karanikolos et al., 2013). The number of individuals globally living in extreme poverty remains high. According to the most recent 2015 estimates (World Bank, 2015), 9.6% of the world's population lived at or below US $1.90 a day (cost of living). Individuals who live in areas of high deprivation are less likely to live in decent housing and spaces that are sociable and congenial, and that are safe from crime and disorder (European Public Health Alliance, 2010). Studies have recently begun to examine the impact of the local condition of hardship on propensity for risk-taking. According to the relative state model (Mishra, Barclay, & Sparks, 2017), individuals make risk-relevant decisions sensitive to their relative state. This relative state can be defined as a computation of competitive advantage or disadvantage derived from the interaction of embodied and situational/environmental factors. The relative state is determined through some comparison of present and desired states (either determined internally or externally). Individuals who experience disparities between one's present and desired outcomes are hypothesized as preferring relatively higher risk options. In contrast, individuals who experience less disparity between one's present and desired outcomes are hypothesized as preferring relatively lower risk options. In other words, in a condition of difficulty to satisfy a perceived need (i.e., money), greater risk-taking is seen as a way to satisfy that

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need (Mishra & Fiddick, 2012; Weber, Shafir, & Blais, 2004). For example, gambling may help individuals meet their needs and wants and/or offset feelings of deprivation through the possibility of financial windfall, but is by definition very risky (Canale, Santinello, & Griffiths, 2015). Such conditions of need could be caused by situational or environmental factors and are principally relevant in competition for significant proxies of fitness, such as material resources and social status. In support of the relative state model (Mishra et al., 2017), associations between relative deprivation, competitive disadvantage, and various forms of risk-taking (e.g., drug and substance abuse, gambling, antisocial conduct, and criminal outcomes) have been demonstrated at both societal (Room, 2005; Wilkinson & Pickett, 2009) and individual levels (Chan, 2015; Mishra & Novakowski, 2016). However, little is known about the extent to which the propensity to take risks is associated with the interaction between individual deprivation and country wealth.

Neither country-level characteristics nor individual-level characteristics can solely explain individually propensity for risk behavior. For example, Bouchouicha and Vieider (2017) found that observable characteristics (e.g., GDP per capita) sustainability accounted for 10% of the variance in risk-tolerance across the globe, while individual characteristics accounted for 90% of the overall variance in their risk-tolerance data. In addition, there are theoretical reasons to hypothesize a joint effect of individual characteristics (e.g., individual deprivation) and country-level socioeconomic factors. More specifically, based on Wilkinson and Pickett's (2009) research on inequality, it is possible that the contrast between individual deprivation and national wealth exacerbates the mechanisms also responsible for the association between inequality and risk behaviors (i.e., relative deprivation and status competition; Crosby, 1976; Smith, Pettigrew, Pippin, & Bialosiewicz, 2012). According to Wilkinson and Pickett (2009), in societies where the social hierarchy is highly pronounced, social status tends to be very salient (Marmot, 2004). Since the majority of the members of such societies have a disadvantageous comparison available, many individuals living in unequal societies might be motivated to compete to gain a better status. This competition is associated with chronic stress and physiological activation negatively impacting physical and mental health and encouraging risk behaviors such as substance use (Marmot, Allen, Bell, Bloomer, & Goldblatt, 2012). Similarly, social status can become very salient when an individual feels economically deprived and lives in a wealthy country. Living in a wealthy country and perceiving that higher statuses are not accessible might provide a motivation to find alternative pathways to gain a higher status (for instance, by displaying risky behaviors or fatalistic beliefs). On the contrary, it is possible that the status competition will not be so pronounced in countries with an efficient education system and a consequently higher social mobility. Indeed, it is possible that individuals who feel economically deprived, instead of searching for alternative pathways to gain a better status, will try to use the social and educational resources of the country in order to improve their socioeconomic status. In light of such findings and theoretical considerations, the main purpose of the present study was to investigate whether the association between individual deprivation and propensity for risk-taking is moderated by socio-economic factors at the country level.

The socioeconomic development of a country can be measured by using macroeconomic indexes, such as GDP per capita and HDI (Islam, 1995). GDP per capita is a measure of development exclusively based on material wealth and it was the most commonly used indicator to compare wealth among countries (Anand & Ravallion, 1993). There is evidence showing a significant relationship of economic development and propensity for risk-taking (e.g., Mata et al., 2016; Bouchouicha & Vieider, 2017), such that countries in which individuals are more exposed to hardship (i.e., low GDP) are likely to report higher rates of propensity for risk-taking. In addition, Bouchouicha and Vieider (2017) found a negative correlation between risk-tolerance and GDP per capita in their cross-sectional analysis of 78 nations. Beyond material wealth measured by GDP, the HDI includes basic social indicators such as life expectancy and education. Life expectancy can be viewed as a temporal reference point that guides risk preference and risk perception (Wang, Kruger, & Wilke, 2009). For example, higher life expectancy across 77 neighborhoods in Chicago was negatively correlated with criminal violence (Wilson & Daly, 1997) that can be considered an outcome of escalation of risk in social competition (Daly & Wilson, 1997). With regard to education, it has been found that risk aversion increases with education (Jung, 2015), without any significant difference between women and men (e.g., Jianakoplos & Bernasek, 1998). Such findings suggest that it is important to understand how country-level characteristics interact with individual-level characteristics to shape the level of risk tolerance felt by individuals. More specifically, based on Wilkinson and Pickett's (2009) theoretical framework, it is possible that the association between individual deprivation and risk-taking will be stronger in wealthier countries (because of the contrast between individual deprivation and country wealth) and weaker in countries with high HDI scores, where economically deprived individuals have the opportunity to take advantage of the educational resources of the country in order to improve their socioeconomic status.

3. The present study

Propensity for risk-taking, like all aspects of personality development, occurs in a broader cultural context (Bleidorn et al., 2013). Individuals growing up in different cultures are exposed to different norms and have different opportunities to engage in risky activity. Therefore, an important question is whether the relationship between individual deprivation and propensity for risk-taking is inherent to all individuals, or varies across cultural contexts. On the one hand, it might be that the effects of deprivation upon propensity for risk-taking are universal features. On the other hand, it could be argued that factors such as the socioeconomic development of a country (e.g., GDP per capita and HDI) might moderate how individual deprivation influences propensity for risk-taking. As the aforementioned literature demonstrates, no study has ever investigated the relationship between individual deprivation and propensity for risk-taking when environmental factors are taken into account. Therefore, the present study addresses this gap by investigating whether the association between individual deprivation and propensity for risk-taking varies with environmental variables assessing socioeconomic development of a country. The study hypotheses are as follows:

H1. In accordance with the relative state model (Mishra et al., 2017), individuals with higher scores of individual deprivation will be more likely to report higher propensity for risk-taking than those with lower scores.

H2. In accordance with recent studies on the impact of the local condition of hardship on propensity for risk-taking (e.g., Bouchouicha & Vieider, 2017; Mata et al., 2016), aggregate propensity for risk-taking will correlate negatively with macroeconomic indexes, such as GDP per capita and HDI.

In accordance with Wilkinson and Pickett's (2009) theoretical framework based on status competition, and in line with the research showing that someone is poor in a poor country is very different from someone being poor in a wealthy country (Easterlin, 2001; Smith, 2003), it was also hypothesized that:

H3. the association between individual deprivation and propensity for risk-taking will vary with GDP per capita and the HDI,[1] and that the variations will be stronger among individuals who live in wealthy

[1] Parallel analyses were conducted to control the effects of GINI index (inequality measure). The results showed that the model with Gini coefficients did not add significantly to the explained variance in propensity for risk-taking.