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Temporal pessimism and spatial optimism in environmental assessments: An 18-nation study

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ABSTRACT

The personal assessments of the current and expected future state of the environment by 3232 community respondents in 18 nations were investigated at the local, national, and global spatial levels. These assessments were compared to a ranking of each country's environmental quality by an expert panel. Temporal pessimism ("things will get worse") was found in the assessments at all three spatial levels. Spatial optimism bias ("things are better here than there") was found in the assessments of current environmental conditions in 15 of 18 countries, but not in the assessments of the future. All countries except one exhibited temporal pessimism, but significant differences between them were common. Evaluations of current environmental conditions also differed by country. Citizens' assessments of current conditions, and the degree of comparative optimism, were strongly correlated with the expert panel's assessments of national environmental quality. Aside from the value of understanding global trends in environmental assessments, the results have important implications for environmental policy and risk management strategies.

Environmental problems plague all countries and damage to interdependent ecosystems has multiplicative effects and international implications. The attitudes of individual citizens are importantly linked to these outcomes. For example, citizens' perceptions of risks can influence the acceptance of governments'

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environmental policies (Steg & Sievers, 2000) and whether or not people choose to act pro-environmentally (e.g., Weinstein, 1980). Fortunately, concern about environmental problems now is widespread. As Dunlap, Gallup, and Gallup (1993: 10) observe, "environmental issues have penetrated the public agendas of all of the nations," and this certainly has accelerated with the recent pronouncements about the certainty of climate change. Nevertheless, environmental attitudes and concern are far from uniform across countries (Franzen, 2003; Schultz & Zelezny, 1999) and more research is needed to understand the ways in which environmental attitudes differ around the globe. This knowledge is valuable if policy-makers hope to understand these attitudes in order to successfully promote pro-environmental behavior. Therefore, international environmental attitude research is an important step towards achieving the goal of global sustainability.

For the most part, environmental attitudes and behaviors have been studied at the level of each person's immediate surroundings (Steg & Sievers, 2000). However, while the global environment encompasses much more than most individuals can comprehend, the global ecology ultimately is a function of the everyday environment-relevant acts of the billions of individuals on the planet. Although a few studies have shown that environmental attitudes vary, for example, with the distance from a person to a problem (Musson, 1974; Uzzell, 2000), more research is needed to better understand this phenomenon. The purpose of this study was to investigate the assessments of environmental conditions at different spatial and temporal levels by a large international sample.

1. Optimism biases

Optimism is subject to self-favoring biases. For instance, comparative optimism refers to the belief that positive events are more likely, and negative events are less likely, to happen to oneself than to others. Unrealistic optimism is the erroneous expectation of a positive outcome and is associated with information-processing biases and maladaptive coping styles (Radcliffe & Klein, 2002). Most optimism bias research has been conducted on health issues, such as that on personal estimates of heart attack risk (Weinstein, 1980). Radcliffe and Klein (2002) suggest, however, that the types and levels of optimism might be different in other domains, and thus should be considered.

1.1. Environmental comparative optimism

In general, individuals seem to believe that, in environmental terms, they are safer than others. For example, residents who had not tested their homes for radon contamination believed that they were less at risk than their neighbors (Weinstein, Sandman, & Klotz, 1988). More recently, residents were found to believe that their local area was less likely to be affected by environmental hazards than the local area of their peers (Hatfield & Job, 2001). In another study, respondents believed they were less subject to danger from 22 environmental risks, as measured by the Environmental Appraisal Inventory (Schmidt & Gifford, 1989), than were comparable others (Pahl, Harris, Todd, & Rutter, 2005).

Comparative optimism is a useful construct for identifying biases because sub-mean risk assessments by the majority of a sample necessarily indicates bias: not everyone can be less at risk than most others (Radcliffe & Klein, 2002). An international study which includes countries that vary in objective environmental quality should usefully enhance understanding of biases in environmental optimism and pessimism. Comparative optimism may be accurate in the case of countries that have less degraded environments by objective measure or expert assessment, but inaccurate if it occurs in countries with objectively more-degraded environments. However, the occurrence of comparative optimism in most or all nations would support the idea that the optimism bias is universal, or nearly so.

In the health domain, the perceived risk of heart attack, when compared to the objective risk, is subject to unrealistic optimism (Kreuter & Strecher, 1995). However, similar comparisons in the environmental domain have not been studied as much, especially at the larger scale. Dunlap et al. (1993) speculated that lay assessments of national environmental quality might correspond to objective national environmental quality. The results from a study conducted in Britain are consistent with this notion: the objective number of beach pollutants was the strongest predictor of individuals' ratings of beach quality (Bonaiuto, Breakwell, & Cano, 1996). However, other studies have revealed important discrepancies between perceived and actual environmental quality (e.g., Kweon, Ellis, Lee, & Rogers, 2006). Clearly, more research on comparative optimism in the environmental domain is needed.

1.2. Spatial bias

For the most part, comparative optimism has focused on self-other (person-oriented) comparisons, and so studies of environmental risk perception have tended to focus on these differences (e.g., Hatfield & Job, 2001; Pahl et al., 2005). However, comparative optimism can also be examined in terms of geographic distance. In its spatial form, it is the tendency to view proximal conditions more favorably than distal conditions. In the first small demonstration of this, Musson (1974) examined assessments of overpopulation in the UK and found in a survey of five communities that although 74% of her respondents believed that Great Britain as a whole was overpopulated, only 48% viewed their own local area as overpopulated. More recent international studies report that assessed environmental quality decreased, or environmental problems increase, as the spatial level increase from the local, to the national, to the global level (Dunlap et al., 1993; Schultz et al., 2005; Uzzell, 2000).

1.3. Temporal bias

Discounting theory asserts that as social, spatial, or temporal units from the perceiver increase, the importance of the problem decreases (Gattig, 2002). Temporal biases seem particularly important because ecological problems characteristically occur slowly and have long-lasting consequences. Temporal discounting has been found to be less common (although still present) for some environmental risks (Böhm & Pfister, 2005). Unfortunately, few studies have investigated temporal biases for multiple risks or at the international level. One such investigation (Dunlap et al., 1993) examined the degree to which respondents believed that environmental problems affected their own health 10 years earlier, currently, and in 25 years. In all countries, most respondents believed that environmental problems would pose a serious threat to the health of their family over the following quarter century.

2. Cultural differences and optimism

Optimism may guide individuals and societies towards success, provided that chosen goals are attainable and real risks are not ignored. According to Peterson (2000), optimism is an inherent part of human nature that has made the growth of civilization possible, and so all contemporary cultures should possess a tendency to be generally optimistic. Nevertheless, Chang (2001) has shown that optimism and pessimism differ in Eastern and Western cultures. Peterson notes that desired outcomes are not