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A framework for intentional cultural change

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ABSTRACT

We present a framework for a pragmatic science of cultural evolution. It is now possible for behavioral science to systematically influence the further evolution of cultural practices. As this science develops, it may become possible to prevent many of the problems affecting human wellbeing. By *cultural practices*, we refer to everything that humans do, above and beyond instinctual or unconditioned behaviors: not only art and literature, but also agriculture, manufacturing, recreation, war making, childrearing, science—everything. We can analyze cultural practices usefully in terms of the incidence and prevalence of individual behavior and group and organization actions. An effective science of intentional cultural evolution must guide efforts to influence the incidence and prevalence of individuals' behaviors and the actions of groups and organizations. In this paper, we briefly sketch advances in scientific understanding of the influences on individual behavior. Then we describe principles that could guide efforts to influence groups and organizations. Finally, we discuss legitimate concerns about the use and misuse of a science for intentional cultural change.

1. Introduction

This paper presents a framework for a pragmatic science of cultural evolution. Behavioral science has developed to the point that it is possible to systematically influence the further evolution of cultural practices (Wilson, Hayes, Biglan, & Embry, in press). Such a science has its basis in understanding what influences individual behavior but is beginning to address how to affect the incidence and prevalence of behaviors in the population and how to influence group and organizational practices. As this science develops, it could become possible to prevent most of the problems affecting human wellbeing.

By *cultural practices*, we refer to everything that humans do, above and beyond instinctual or unconditioned behaviors: not only art and literature, but also agriculture, manufacturing, recreation, war making, childrearing, science—everything. We can analyze cultural practices usefully in terms of the incidence and prevalence of individual behavior and group and organization actions (Biglan, 1995). For example, tobacco control researchers analyze the cultural practice of cigarette smoking in terms of the incidence of young people starting to smoke (Pierce & Gilpin, 1995); the prevalence of smoking among adolescents and adults (Centers for Disease Control and Prevention, 2008a, 2008b); the manufacturing, marketing, and lobbying practices of tobacco companies; and the efforts of various tobacco control organizations (Biglan, 1995; Biglan & Taylor, 2000).

An effective science of intentional cultural evolution must guide efforts to influence the incidence and prevalence of individuals' behaviors and the actions of groups and organizations. In this paper, we briefly sketch advances in scientific understanding of the influences on individual behavior. Then we describe principles that could guide efforts to influence groups and organizations. Finally, we discuss legitimate concerns about the use and misuse of a science for intentional cultural change.

2. A values-driven, pragmatic science

Over the past 20 years, there has been a resurgence of pragmatic or contextualist thinking within the behavioral sciences (e.g., Hayes, 1993; Hayes & Long, 2013; Wilson, Whiteman, & Bordieri, 2013). The goal of functional contextualism is to identify variables that allow the prediction and influence of the behavior or action of interest (Biglan & Hayes, 1996). While most of the discussion of this framework has focused on behavior, we believe that the framework is just as relevant to influencing cultural evolution (Wilson et al., in press).

The contextualist framework encourages us to be explicit about our values and goals. We seek a science of cultural change that contributes to improving the wellbeing of all people. We aspire to a world that meets the basic needs of all people: they have adequate food and shelter; they have the best health achievable for a mortal species; they are free from avoidable harms, including

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disease, natural disaster, toxic substances, and attack from others. It is now possible to measure each of these outcomes. The science we envision will monitor the prevalence of these outcomes in populations and systematically test strategies to increase the prevalence of these types of wellbeing.

Once you embrace a set of values, a pragmatic orientation follows naturally. If we seek cultural change that improves well-being, we must identify *manipulable variables* we can use to influence cultural practices. For example, it is not enough to know that tobacco marketing entices young people to start smoking (Biglan, 2004; National Cancer Institute, 2008). We also need to know what would influence tobacco companies to end such marketing.

In seeking to change the incidence or prevalence of a behavior, we must identify the influences on that behavior and employ those influences to reach many people (Biglan & Glenn, 2013). For example, evidence of the impact of raising the drinking age on reducing alcohol-related car crashes among young people led to increases in the drinking age in all U.S. states (Wagenaar, 1981). Increasing the prevalence of peer and adult reinforcement for prosocial behavior in classrooms and schools reduces the incidence of antisocial behavior in the short-term and the lifetime prevalence of criminal behavior and psychological disorders (e.g., Embry, 2002; Kellam et al., 2008). Similarly, if we are interested in reducing corporate actions that harm the environment, we could raise the cost of those actions through taxes, a cap and trade system, or outright prohibition (Biglan, 2009).

3. Nurturing prosociality: a useful goal of cultural evolution

We find it useful to characterize the necessary conditions for human wellbeing in terms of two classes of human behavior and four facets of nurturing environments. We base this analysis on the extensive body of evidence that has arisen in the past 40 years regarding the development of behavior and effective treatment and preventive interventions. We also base these observations on human evolutionary history and the clear-cut preference of humans not to be harmed or coerced by other humans.

3.1. Prosociality

Prosociality refers to a constellation of behaviors, values, and attitudes that involve cooperating with others, working for the wellbeing of others, sacrificing for others, and fostering self-development (Kasser & Ryan, 1993; Wilson, 2007). Prosociality has numerous benefits for individuals—as long as they are in environments in which most other people are prosocial (Wilson & Csikszentmihalyi, 2008). Compared to those who are not prosocial, prosocial individuals have fewer behavioral problems (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Kasser & Ryan, 1993; Sheldon & Kasser, 1998; Wilson & Csikszentmihalyi, 2008), do better in school (Caprara et al., 2000), have more and better friends (Clark & Ladd, 2000), and have better health (Biglan & Hinds, 2009). Even in the business world, cooperators typically fare better (Channer & Hope, 2001).

From an evolutionary perspective, this constellation of behaviors has great value for the group: cooperative groups can outcompete groups with few prosocial members (Henrich, 2004; Kasser, 2004; Sober & Wilson, 1998; Wilson et al., 2013). Prosocial individuals contribute more to their communities (Wilson & O'Brien, 2009). The benefits of prosociality are apparent even at the level of nations. Countries with a higher proportion of people endorsing prosocial values are higher on measures of children's wellbeing, provide better maternal leave benefits, advertise less to children, and emit less CO_2 (Kasser, 2002).

Good self-regulation appears to be foundational for prosociality (Rothbart, 2011). Young children's ability to inhibit their first impulse and to regulate their emotions enables them to do things others request and to restrain behavior that may harm or annoy others. This ability is the product of hundreds of interactions in which others prompt or request behavior from the child and reinforce self-regulated behavior (e.g., Agran, Blanchard, Wehmeyer, & Hughes, 2001). Through these socialization processes children become better able to cooperate with others: an important step in developing prosociality.

Empathy also appears to be foundational for prosociality. Prosocial individuals show greater empathy toward others (Eisenberg, Miller, Shell, McNalley, & Shea, 1991). This ability requires that a child or adult be able to take the perspective of others. There is growing evidence that perspective-taking is learned and that it facilitates the ability to understand others' emotions (McHugh & Stewart, 2012).

3.2. Antisocial behavior and related problems

A contrasting constellation of behaviors includes directly antisocial behavior (e.g., aggression, verbal abuse, coercion, homicide, theft, fraud) as well as behaviors that are dysfunctional for the individual or those around them. Examples of the latter category include risky sexual behavior, substance abuse, academic failure, truancy, and depression. For years behavioral scientists studied these behaviors in isolation, as if they were unrelated. However, the evidence is overwhelming that they are inter-related (e.g., Biglan, Brennan, Foster, Holder, & Miller, 2004). Now there is growing reason to see them as evolutionary adaptations to threatening environments (Ellis et al. 2011; Ellis & Bjorklund, 2012).

Boles, Biglan, and Smolkowski (2006) provide an example of how extensive these inter-relationships have become. They report on the co-occurrence of a variety of behavioral problems in a large representative sample of 8th- and 11th-grade students. Among eighth graders, a youth who engaged in antisocial behavior was 5.42 times more likely to use substances than one who did not engage in antisocial behavior. The relative risk of risky sexual behavior given antisocial behavior was 7.80; it was 2.62 for eating disorders. The relative risks of these problems given antisocial behavior were smaller for 11th graders, but all were highly statistically significant.

Although some risk factors are unique for some of these problems, all share some of the most significant risk factors. In particular, coercive social environments and the lack of reinforcement for prosocial behavior are major influences on the development of each of these problems. And although delinquency, substance abuse, early sexual behavior, and depression tend to be treated simply as abnormalities, we would argue that they are better construed as evolutionary adaptations to stressful, threatening human social contexts. It may be more useful to see them as evolutionary-based adaptive consequences of the predatory actions of other humans.

The role of coercive environments has been most extensively studied in development of antisocial behavior. Patterson and colleagues (e.g., Patterson, Reid, & Dishion, 1992) reported on direct observations of family interactions that found the families of aggressive children to be marked by high levels of conflict in which the escalated aggression by family members functioned in getting others to cease their own criticism, commands, and attacks. At the same time, there was less reinforcement for peaceful ways of interacting than shown in families of non-aggressive children. Longitudinal studies of children with aggressive social repertoires show that, by the time these children reach