

THE NATURE, COMMON USAGE, AND IMPLICATIONS OF FREE WILL AND DETERMINISM

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ABSTRACT: Philosophers and psychologists have debated what is meant by free will as well as the nature of human choice. However, only recently have data been gathered to consider common usage of the term; our data support college students' belief in free will as indicating some degree of choice that is not constrained by genetic or environmental factors and as separate from a "soft" determinism perspective. How free will and determinism beliefs relate to other psychological attitudes, such as moral responsibility and tolerance, is also considered.

Key words: determinism, free will, moral responsibility, tolerance

The Nature of Human Choice

The nature of our choosing, the extent to which our choices are "free" or "determined," has been a topic of frequent debate in both philosophy and psychology. The philosophical issues are complex. Kane (2002), for example, describes a variety of issues and positions on this thorny topic. One basic question is: Is free will compatible with determinism? The *libertarian* view, which argues that actions are freely chosen by an autonomous agent, is a stance clearly incompatible with determinism. From a very different perspective, the *hard determinist* view, which argues that behavior is completely caused by a combination of genetics, past experiences, and current circumstance, also clearly supports the incompatibility of determinism and free will—free will simply doesn't exist. Consistent with a hard deterministic perspective, in 1954 philosopher A. J. Ayers wrote that, assuming behavior is based on causal laws, a person could only have acted differently if the factors leading up to the behavior in question had been different.

Others have asserted various forms of *soft deterministic* stances, which assert that free will, properly characterized, can be compatible with determinism. For example, while affirming that determinism is true, some hold that a sense of free will comes from our deliberative actions, which are themselves caused (i.e.,

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determined). Free will is thus an illusion reflecting a kind of ignorance of the controlling variables of our choices. In one form of this view, Stace (1952) described a soft determinism perspective such that if no *coercive external agents* were present, the person could have been said to have freely chosen a particular action. Although Stace indicated that he believed psychological feelings, motivations, and intentions were also ultimately caused, his usage of “free will” referred specifically to instances of choice without external coercion. According to this soft determinism perspective, a person’s behavior may be caused by internal psychological states that, in turn, have causes, but if no immediately pressing external agent affects the behavior, the person is said to have free will.

On the other hand, Hodgson (2005) describes free will as contrary to a deterministic philosophy, even a soft determinism. Hodgson presents nine propositions in defense of and explicating this perspective. As a necessity for free will, the first of these propositions describes a world in which a minimum of “two post-choice states” (p. 4) are possible, given the laws of nature. Hodgson further argues that the two alternatives and corresponding decision must be non-random.

Yet another perspective, *phenomenological free will*, regards choice and natural determinism as skew planes or nonintersecting dimensions. From the phenomenological perspective, the individual’s *experience* of “will” and “intention” is more important than whether or not there are or are not deterministic antecedents to these experiences. In other words, the person’s own perception of intentionally choosing, rather than whether or not that choice is “free” or “determined,” is what is crucial. Donagan (1987) describes “will” as our capacity to make, evaluate, and change our intentions and decisions, distinguishing our intentions from both our desires and our beliefs. Our choices are, in a sense, precursors to action as we think of ourselves and others as intelligent agents. Freedom of choice, according to Donagan, is presupposed “in reporting what we experience” (p. 181).

MacIntyre (1999) indicates the importance of not just being an agent, but viewing ourselves as an agent. According to him, we cannot fully be moral agents unless we regard ourselves as such in our everyday lives. Nagel (1986) describes the subjective perspective used for viewing the self (which can be disturbed by an external, more objective view of ourselves as part of the world), allowing us to experience phenomenologically our reasons and the deliberative process of choosing.

A hallmark of free will to some philosophers has been this active deliberative process of choosing (Bernstein, 2005; Coffman & Warfield, 2005; Frankfurt, 1971; Kane, 2002; Watson, 1987). However, Libet (2002) described an experiment in which participants were asked to flick their wrists whenever they chose and to report “a clock-time” for their first awareness of their action urge. The readiness potential, signaling neuronal precursors to movement, occurred prior to the participants’ report of awareness of action. According to Libet, this did not preclude deliberative free will, because individuals still had “veto” power to prevent the actual action through cognitive deliberation.

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Velmans (2003), though, suggests that free will may be more at a “preconscious” level:

Like conscious wishes and decisions, feelings of having a thought to express, verbal expressions, and consequent feelings of ‘good fit’ *represent* the global state of our current cognitive processing and for everyday purposes we can treat these as if they *constitute* our mental processing (in first person accounts of what is going on). But like wishes, decisions, and experience at the focus of attention, they are the *result* of preconscious processing in the mind/brain. (p. 57)

In a similar vein, based on a skills-model approach to ethical actions, Dreyfus and Dreyfus (1991) argue that at the highest level of ethical expertise one responds intuitively rather than deliberatively. Just as the expert chess player may respond more intuitively than deliberatively, intuitive ethical decisions based on experience, caring involvement, and the unique situation reflect the “highest level of ethical comportment” (Dreyfus & Dreyfus, 1991, p. 247). From this perspective, our most mature ethical choices reflect intuition rather than deliberation.

While our view comes closest to the “hard determinism” position, we believe that many people do not accept this perspective. We wanted to explore what people (i.e., a fair sample of college students) typically mean when they use terms such as “free will” and “freedom of choice.”

Common Usage and Beliefs in Free Will vs. Determinism

Review of Common Usage

What is meant by free will and determinism by the average person? Writing in 1952, Stace was concerned with common usage of the term “free will.” Giving examples of the use of the term in possible conversations, Stace argued that the average person in common usage means that an action is freely chosen if there are no immediate causes that are external to the person, such as a gun to the head.

However, Hodgson (2005) defends the “plain person’s” sense of free will as being in line with his own view opposing both soft and hard determinism. Hodgson believes that “free will,” to the average person, represents some degree of nonrandom choice that is unconstrained by genetic and environmental determinants.

Although psychologists and philosophers have debated what free will means to the ordinary person or the nature of its common usage, data bearing on the issue have been collected only infrequently. Nahmias, Morris, Nadelhoffer, and Turner (2004) argued that because philosophers, through introspection, reach different conclusions about the phenomenology of free will, lay people need to be asked about their experience of free will. Asking undergraduate students to consider a recent decision they had made, Nahmias and colleagues found that more students gave a compatibilist response (i.e., they would have needed different desires or would have considered something different necessary before choosing differently)

than a libertarian response (i.e., they could have chosen differently even if everything was exactly the same).

Nichols (2004) explored children’s perceptions of agent-causation, which assumes that the person had the option to make another choice. Even four- and five-year-old children indicated, when presented with scenarios in two experiments, that people, compared to objects, have alternatives to their choices or outcomes. Nichols, in a second study (Nichols & Knobe, 2007), described deterministic Universe A and indeterministic Universe B. In Universe A all events, including human behavior, were caused by previous events; in Universe B, however, most events were caused by previous events with the exception of human behavior, which was freely chosen by the person. Across several conditions, more than 90% of undergraduates indicated that they believed that the indeterministic universe was most like ours. These results imply that the lay person’s beliefs are not compatible with the determinism perspective.

To explore further how the “common” or “plain” college student may regard free will, we sampled college students at our university. The results are described in the next section.

College Student Usage: Two Samples

Study 1a. College students (93 men, 166 women) in a teaching theater, sophomore-level Psychology of Human Sexuality class, completed a questionnaire as an extra credit option that included questions assessing participants’ attitudes toward free will and determinism. The first of these questions simply asked participants if they believed that people have free will and asked them to indicate their answer using a five-point scale ranging from “definitely do NOT have free will” to “definitely HAVE free will.” The next item asked the students to select, from four alternatives, the description that “comes the closest” to what most people mean by free will. The four alternatives are given below:

People’s genes, their past experience, and their current circumstances have little influence on their decisions; they freely choose among the alternatives available to them.

People’s genes, their past experience, and their current circumstances influence their behavior, but ultimately they freely choose among their options and therefore have free will.

People’s genes, their past experience, and their current circumstances ultimately determine their behavior, but people can be said to have free will if there are no immediately pressing circumstances (such as a gun being held to someone’s head) that strongly influence their actions.

People only feel that they have free will; ultimately all of their choices and decisions are determined solely on the basis of their genes, past experiences, and their current circumstances.

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The first of these four choices represents “mostly free will” with little influence attributed to determinants of behavior; the second represents “some free will” with some deterministic influence; the third represents a “soft determinism” stance, and the last represents a “hard determinism” perspective. The next four items asked participants how much they personally agreed with each of the previous statements, using a five-point continuum that ranged from “disagree strongly” to “agree strongly.”

For the question asking whether people have free will, 51% chose “four” on the five-point scale, corresponding to a belief that people probably have free will; and 32% chose “five,” corresponding to a belief that people definitely have free will. Consistent with these responses, 69% agreed (scored above neutral) with the statement that people have some free will, and 20% agreed with the statement that people mostly have free will (see Table 1). In addition, 42% agreed with the soft determinism statement, although a t-test revealed that students were significantly more likely to agree with the “some free will” statement than the “soft determinism” choice, $t(258) = 11.52, p < .001$.

Table 1. Percentages for the Free Will/Determinism Choices

Item	“Most People” Believe ^a	Personal Agreement ^b
Mostly free will	5%	20%
Some free will	62%	69%
Soft determinism	27%	42%
Hard determinism	6%	15%

^aThe percentage of people who chose this answer as what most people believe by “free will.”

^bThe percentage of respondents who scored above neutral (chose a “4” or “5”) when indicating their personal agreement/disagreement with the item.

Study 2a. Sixty-six men and 131 women in a junior-level, Lifespan Developmental Psychology class, were given an extra credit option of completing a questionnaire that included two items assessing general opinions regarding free will/determinism. One of these items assessed participants’ perception of the amount of free will that people have using a ten-point scale that ranged from “COMPLETE free will” (1) to “NO free will” (10); the second item asked participants to select from three choices (representing free will, soft determinism, and hard determinism perspectives) the choice that came closest to reflecting their own point of view. The descriptions for soft and hard determinism were identical to those used in Study 1a; the free will choice was almost identical to the “mostly free will” used in Study 1a, changed only by the insertion of “relatively.” That choice was worded as follows: “People’s genes, their past experiences, and their current circumstances have relatively little influence on their decisions; they freely choose among the alternatives available to them.”

On the 10-point assessment of free will, the majority of participants (64%) chose a number less than 5, which was labeled “SOME free will,” indicating that most participants gave a strong role to free will, consistent with the findings from

Study 1a. However, when participants were forced to choose among the three determinism/free will options, the clear majority (74%) of participants agreed with the soft determinism perspective. Only 13% and 14% agreed with the free will and hard determinism choices, respectively.

Our data support Hodgson's (2005) "plain person's" description of free will more than Stace's (1952) common usage description. In Study 1a 62% of participants chose the "some free will" answer for what they think others believe and were personally more likely to agree with the "some free will" than the "soft determinism" answer. Only in Study 2a, when participants were forced to choose among three alternatives (a hard determinism choice, a soft determinism choice, and a choice giving little role to genetic/environmental determinants), did a majority of participants choose a soft determinism perspective as reflecting their own views. Also, on the one (COMPLETE free will) to ten (NO free will) scale in the second study, more than 60% of participants selected, regarding the amount of free will individuals have, a number less than 5 (SOME free will), another indicator of a strong role for free will.

Implications: Free Will vs. Determinism, Moral Responsibility, and Tolerance

Does it make a difference what attitudes people have regarding free will and determinism? Is it possible that these attitudes could affect other beliefs and attitudes that individuals hold? Some philosophers have argued that it does, that beliefs regarding free will are related to attitudes regarding blame, punishment, and moral responsibility (Double, 2004; Mitchell, 2005; Smilansky, 2005). According to Smart (1970, p. 212), for ordinary people "the appropriateness of praise and blame" is closely tied to their ideas regarding free will.

In other words, how can we hold individuals responsible, blame them, and punish them for their actions if they could not do other than what they did do? In a research study examining people's thoughts on moral responsibility in a deterministic world, participants were asked to imagine a deterministic universe in the next century with a supercomputer that could predict all aspects of the future, including human behavior, based on naturalistic laws and the current environment (Nahmias, Morris, Nadelhoffer, & Turner, 2005). Even in such a world 83% of participants indicated that a bank robber is still morally blameworthy. In other words, these participants assumed moral responsibility even in a deterministic world. However, this finding should be interpreted with caution as the majority (76%) of the participants indicated that they believed the person still robbed the bank of his own free will, confirming their reluctance to accept a deterministic world view. Similar results were found when the scenario was changed to that of a person saving a child (88% indicating praiseworthy; 68% indicating a free will action) or going jogging (79% indicating a free will action) rather than robbing a bank. When asked if the individual could have chosen otherwise, 67% indicated that the robber could have chosen differently, not to rob the bank, but 62% answered that the individual could not have chosen differently when saving the

child. The implication from these preliminary data is that, especially in “people behaving badly” scenarios, people are perceived as agents choosing their alternatives, even in a world described as deterministic.

Nahmias and colleagues (Nahmias, Morris, Nadelhoffer, & Turner, 2006) also used several other scenarios. In one, the universe is re-created many times, always with the same natural laws and the same beginning conditions; participants are told that everything happens exactly the same in all re-creations of the universe. Jill, a person in this universe, is portrayed as stealing a necklace at the same time in every re-creation of the universe. Of the participants in the study, 77% thought Jill was morally responsible, and 66% still thought she had free will. Comparable results were found for identical twins Fred and Barney, who were either reared by a selfish (Fred) or kindly (Barney) family who, upon finding a wallet with \$1,000 in it, chose either to keep or return the wallet.

Based on their data, Nahmias and colleagues (Nahmias et. al., 2006) argue that believing actions are determined does not reduce moral responsibility. However, the majority of participants in their study indicated that they still believed that the actors had free will. College students in our studies also seemed reluctant to understand or accept a deterministic world and its implications.

According to B. F. Skinner (1972), the reason for our arranging consequences for behavior lies not in any justified retributive function but in changing people’s behavior and society for the better. As opposed to some inherent qualities of a person, moral as well as other responsibilities are *assigned* by various segments of society from parents to parliaments with the function of providing effective consequences that benefit the individual and ultimately the society through promoting its survival. Similarly, Clark (2003, 2005) and Stace (1952) believe that behavioral consequences should not be justified by what is fair or deserved but by what is best for people and society as a whole. These views on the effectiveness of consequences in changing behavior are obviously based on a scientific determinism wherein “responsibility” and “determinism” are necessarily compatible.

In another vein, Smilansky (2005) calls determinism “the great eraser” (p. 259) because this perspective should reduce people’s tendency toward judging others as well as their own personal guilt. Thus, a deterministic philosophy may promote empathy toward those who are punished. For example, a determinist’s thinking regarding a woman who abuses her children might be as follows: “If I had her genes, including any genetic tendencies towards impulsiveness and aggression, if I had her environmental history, including the past abuse she has suffered, and if I were in her current situation, I also would be abusing my children.” Determinists, then, might be expected to be more accepting and tolerant of others because they literally believe that, if they were in that person’s shoes, they would do the same thing.

Although Haynes, Rojas, and Viney (2003) found that determinists were indeed less punitive than libertarians, other studies have found either no relationship or the opposite finding (Viney, Parker-Martin, & Dotten, 1987; Viney, Waldman, & Barchilon, 1982, respectively). Further research is needed to assess

these contradictory findings and to explore the relations among people's beliefs in free will, determinism, moral responsibility, and tolerance. The following two studies attempted to address some of these relations.

Data Relating Free Will/Determinism, Moral Responsibility, and Tolerance

Study 1b. The questionnaire previously mentioned (Study 1a) included a question assessing participants' religiosity, seven questions assessing moral responsibility and tolerance, the 22 items from the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 2001), and the four items from the Attitude Towards Gay Men Scale (ATG; Herek & Capitanio, 1999). Moral responsibility was assessed by participants rating the following item on a five-point agree–disagree scale: “People who commit crimes or hurt someone are morally responsible for their behavior and should expect to receive appropriate consequences for their actions.” In addition, the following related statements were included: “The world is just and fair; in other words a person generally gets what they deserve,” “People who commit crimes should not be able to plead ‘insanity’ for those crimes,” and “Preventing bad and/or criminal behavior is a better way to approach societal problems than punishing people after they commit a crime.”

A tolerant versus judgmental attitude toward others was assessed with the following items: “People who are addicted to drugs deserve to get AIDS from sharing dirty needles,” “People who are obese could eat less if they truly wished to lose weight,” and “People who are homeless could find work and afford housing if they truly wished to support themselves.” The ASI items and the ATG items, also used as an indicator of tolerance, then followed these items. The ASI yields two sub-scores, a hostile sexism (ASI-H) score and a benevolent sexism (ASI-B) score. Hostile sexism includes items such as “Most women interpret innocent remarks or acts as being sexist” whereas benevolent sexism includes items like “In a disaster, women ought to be rescued before men.” The four items on the ATG include two positively worded items (e.g., “Male homosexuality is a natural expression of sexuality in men”) and two negatively worded items (e.g., “Sex between two men is just plain wrong”).

Pearson correlations were determined to examine the relations among the free will/determinism items and items assessing moral responsibility and tolerance (see Table 2). Agreement with the “mostly free will” and “some free will” perspective was positively (though weakly) correlated to the moral responsibility item. Rather than the predicted greater tolerance associated with determinism, agreement with soft and hard determinism was positively (though weakly) related to hostile and benevolent sexism.

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Table 2. Correlations among Free Will/Determinism Choices, Moral Responsibility, Fairness, and Tolerance Items/Scales

Item/Scale	Mostly Free Will	Some Free Will	Soft Determinism	Hard Determinism
How religious	-.08	.09	-.07	-.05
Believe in “free will”	.03	.39**	.12	-.28**
World is fair	.03	.00	.18**	.01
Prevention better than punishment	-.06	.00	-.03	-.13
Moral responsibility	.17**	.25**	.05	-.13
No “insanity” plea	.20**	.01	.03	.10
Addicts deserve AIDS	-.04	-.20**	.00	.10
Obese could eat less	.00	.00	.13	.13
Homeless people could work if they wanted	.10	-.01	.14*	.12
Benevolent sexism	.07	-.15*	.23**	.19**
Hostile sexism	.13	-.04	.15*	.16*
Gay men attitudes	.03	-.05	.10	.01

Note: Positive correlations indicate agreement with each item/scale for those scoring more agreeing with each free will/determinism choice. Significance levels have been corrected, using the Benjamini Hochberg (Benjamini & Hochberg, 1995) correction, for alpha inflation.

* $p < .05$ ** $p < .01$

Assuming that the starred correlations shown in Table 2 are meaningful, what explanations might be offered for these unexpected results? Perhaps our measures of soft and hard determinism masked individual support for different kinds of determinism. Some people who consider themselves determinists may be responding from a religious “predestination” stance, that God has knowledge of the outcome of everyone’s life, rather than a naturalistic determinism. Also, a belief in determinism could be consistent with those who believe that male/female differences are genetically based, thus explaining the correlations with sexism. Genetic or religious determinism could be expected to be related to less tolerance rather than more tolerance.

Study 2b explored the possibility that different forms of determinism could be related to tolerance in different ways. Although religious and/or genetic determinism might be related to more judgmental attitudes towards others, determinism based on the influence of environmental factors may be related to more tolerant, less judgmental attitudes. The relations among different forms of determinism, a measure of tolerance, and attitudes toward homelessness were considered in Study 2b.

Study 2b. The questionnaire used in Study 2a contained an item asking participants to indicate how religious they were, the 18-item Belief in Genetic

Determinism Scale (BGD; Keller, 2005), the 17-item Free Will–Determinism Scale (Stroessner & Green, 1990), the 8-item Intolerance subscale of the Form E Dogmatism Scale (Rokeach, 1960), and the 11-item Attitudes toward Homelessness Inventory (ATHI; Kingree & Daves, 1997).

The BGD Scale asks participants to use a 7-point scale that ranges from “not at all true” to “completely true” and includes items such as “The fate of each person lies in his or her genes.” Items on the Free Will–Determinism Scale are assessed using a 9-point (“strongly agree” to “strongly disagree”) scale and are designed to assess “religious–philosophical determinism,” “libertarianism,” and “psychosocial determinism.” Sample items are as follows: “My choices are constrained by God” (religious–philosophical determinism); “I have free will in life, regardless of group expectations or pressures” (libertarian); and “My present behavior is totally a result of my childhood experiences” (psychosocial determinism).

Intolerance items from the Dogmatism Scale were rated using the standard “agree a little” to “agree very much” (+1 to +3) and “disagree a little” to “disagree very much” (–1 to –3) scale. A sample item is “I sometimes have a tendency to be critical of the ideas of others.”

The ATHI has a four-factor structure that assesses “personal causation,” “societal causation,” “affiliation,” and “solutions” related to homelessness; items are scored using a 6-point response format ranging from “strongly agree” to “strongly disagree.” Sample items are as follows: “Homeless people had parents who took little interest in them as children” (personal causation); “The low minimum wage in this country virtually guarantees a large homeless population” (social causation); “I would feel comfortable eating a meal with a homeless person” (affiliation); and “There is little that can be done for people in homeless shelters except to see that they are comfortable and well fed” (solutions). Items, with one exception because it was worded in the reverse direction, were recoded so that stronger agreement was indicated with a higher number as in the other scales.

One-way ANOVAs were used to compare the three groups from the forced choice free will/determinism item on the four ATHI and dogmatism subscales. The means of the three groups were significantly different on the social causes subscale, $F(2, 188) = 3.32, p < .05$; and on the affiliation subscale, $F(2, 189) = 3.43, p < .05$. Based on Bonferroni’s *post-hoc* comparisons, soft determinists scored significantly higher than hard determinists on the social causes subscale and significantly lower than those choosing the free will alternative on the affiliation subscale. Because of the items’ wording, the latter finding indicates that those choosing free will were more likely than those choosing soft determinism to want to affiliate with homeless people.

Pearson correlations were computed to examine correlations among the determinism/free will measures, the intolerance subscale, and the homelessness subscales (see Table 3).

Table 3. Correlations among Determinism, Intolerance, and Attitudes toward Homelessness Measures

Item/Scale	Intolerance	ATHI- PC	ATHI- SC	ATHI- AFF	ATHI- SOL
How religious	.17*	-.04	-.09	.09	.12
Degree of free will	.05	-.02	.06	-.04	-.04
Genetic determinism	.21**	.17*	-.05	-.14	.22**
Libertarianism	.09	.08	-.14	.21**	.01
Rel-phil determinism	.29***	.04	-.08	-.13	.19**
Psychosocial determinism	.12	.29***	-.01	-.16*	.16*

Note: ATHI-PC, ATHI-SC, ATHI-AFF, ATHI-SOL refer to the Personal Causes, Societal Causes, Affiliation, and Solutions subscales of the Attitudes toward Homelessness Inventory. Homelessness items, except for one affiliation item which was worded in the reverse direction, were recoded to indicate agreement with the item. Significance levels have been corrected, using the Benjamini Hochberg (Benjamini & Hochberg, 1995) correction, for alpha inflation.

* $p < .05$ ** $p < .01$ *** $p < .001$

Intolerance was positively, but weakly, correlated with genetic determinism, religiosity, and religious-philosophical determinism, perhaps indicating that some forms of determinism are related to intolerance. Psychosocial determinism was neither correlated with Rokeach's (1960) intolerance subscale nor with the social causes of homelessness subscale. Individuals who agreed with a psychosocial deterministic perspective, like those agreeing with genetic determinism, were more likely to agree that homelessness is related to childhood experiences and substance abuse (personal causes subscale items).

In addition, correlations among the forms of determinism lend support for the interpretation that determinism is multifaceted. Biological determinism was positively correlated to religious-philosophical determinism, $r(197) = .21, p < .01$, but not to psychosocial determinism. Libertarianism was negatively related to psychosocial determinism, $r(197) = -.17, p < .05$, and to the single item assessing amount of free will (10 = no free will), $r(197) = -.50, p < .001$. In addition to the negative correlation with libertarianism, psychosocial determinism was positively related to religious-philosophical determinism, $r(197) = .17, p < .05$. At least in these college students, the relation among these concepts does not appear to be straightforward.

Conclusions

Are attitudes toward free will and moral responsibility, and judgments of blameworthiness or praiseworthiness, linked in people's opinions? In our studies all correlations between free will/determinism measures and moral responsibility/judgmental attitudes were small, accounting for less than 9% of the variance among respondents in all instances. Some correlations, though, such as

those between Rokeach's (1960) intolerance subscale and measures of genetic and religious–philosophical determinism (Study 2b) may, in fact, be indicative of intolerance associated with at least some forms of determinism. But what conditions might have contributed to the generally small correlations obtained?

First, few (if any) students in this sample (and probably in common with most people) have ever considered in any reasoned way the issues at hand. One possible consequence is a tendency to “compartmentalize” attitudes, for example, not thinking about implications of deterministic attitudes for blaming/praising the actions of others. Furthermore, while few indicated an agreement with a strong determinist position, most of our participants gave at least some role to genetic and environmental determinants. In Study 2a, a majority chose a soft determinism perspective as better representing their view compared to a perspective giving little role to these influences.

Whether or not participants give a deterministic opinion regarding human choices can be related to the scenario confronted. Nahmias (2006) presented college students with one of two scenarios. The first described a planet called Erta where neuroscientists had discovered how people's decisions were caused by chemical reactions in the brain. The second scenario was identical except that psychologists, rather than neuroscientists, had discovered how decisions are caused by “thoughts, desires, and plans” (Nahmias, 2006, p. 231). Participants were more likely to give deterministic responses to the first scenario than to the second. According to Nahmias, reducing human decisions to chemical reactions may seemingly eliminate the focus on the conscious process of choosing.

We also found that question wording was important. In the second study, given a forced-choice scenario among relatively little influence for determinants, soft determinism, and hard determinism, almost three-quarters of our participants chose soft determinism. However, at the same time the majority of our participants indicated that they believed in more than “SOME free will.”

In a further methodological consideration, according to Nahmias (2006), a situation's complexity may affect whether or not an event or behavior is perceived as determined. When students were presented with a scenario of a universe being re-created many times with the same natural laws and asked if everything, including a lightning bolt striking a tree, would happen exactly the same every time, only 42 of 99 participants said it would. Perhaps common experiences of apparent randomness and unpredictability of events shaped some students' assessment here (not to mention Heisenberg's uncertainty principle!).

A very different, but related, approach to studying choice involved participants judging computer simulations. In intriguing research, Neuringer, Jensen, and Piff (2007) asked participants to judge how closely computer simulations of gambling behavior matched people's *voluntary choices*. Computer simulations that were unpredictable and probabilistic (resembling the generalized matching function that predicts people's and animals' choice allocations under concurrent reinforcement contingencies) were perceived as “voluntary.” In other words, “voluntary” is a “discriminable behavioral characteristic” (Neuringer et. al., 2007, p. 18). Studying aspects of simulated behavior that participants perceive as

being freely chosen may be another approach to understanding what the average person means by “free will.”

The reluctance to view human behavior from a deterministic perspective may be related to the perception that if decisions are determined we have no choice. However, from a deterministic perspective, each choice becomes even more important because the consequences of that choice become determinants of future behavior. M. C. Escher’s (1981) “Drawing Hands,” a print of two hands each drawing the other hand, becomes a metaphor for our creating ourselves with each decision that we make. As Nelkin (2004) points out, rational deliberators view themselves as having good reasons for making the decisions they do and as being morally responsible for the outcome of those choices. This holds true even if their reasons and subsequent choice are ultimately determined by the deliberators’ genes, their past experiences, their present situation, and the laws of nature. We can still experience the “up-to-us” feeling (Kane, 2002, p. 5) associated with the phenomenological experiencing of “free” will even if only one final choice is possible.

References

- Ayers, A. J. (1954). *Philosophical essays*. London: MacMillan.
- Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society, Series B*, 57, 289-300.
- Bernstein, M. (2005). Can we ever be really, truly, ultimately, free? *Midwest Studies in Philosophy*, 29, 1-2.
- Clark, T. W. (2003, November). *Causality, compassion, and control: Ethical implication of naturalism*. Paper presented at the Ethical Society of Boston. Retrieved June 16, 2006 from <http://www.naturalism.org/>
- Clark, T. W. (2005, April). *Encountering naturalism: Science, self, and society*. Paper presented at the New England College. Retrieved June 16, 2006 from <http://www.naturalism.org/>
- Coffman, E. J., & Warfield, T. A. (2005). Deliberation and metaphysical freedom. *Midwest Studies in Philosophy*, 29, 25-44.
- Donagan, A. (1987). *Choice: The essential element in human action*. London: Routledge & Kegan Paul.
- Double, R. (2004). How to accept Wegner’s illusion of conscious will and still defend moral responsibility. *Behavior and Philosophy*, 32, 479-491.
- Dreyfus, H. L., & Dreyfus, S. E. (1991). Towards a phenomenology of ethical expertise. *Human Studies*, 14, 229-250.
- Escher, M. C. (1981). *29 master prints*. New York: Harry N. Abrams, Inc. Publishers.
- Frankfurt, H. G. (1971). Freedom of the will and the concept of a person. *The Journal of Philosophy*, 68, 5-20.
- Glick, P., & Fiske, S. T. (2001). An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. *American Psychologist*, 56, 109-118.

- Haynes, S. D., Rojas, D., & Viney, W. (2003). Free will, determinism, and punishment. *Psychological Reports, 93*, 1013-1021.
- Herek, G. M., & Capitanio, J. P. (1999). Sex differences in how heterosexuals think about lesbians and gay men: Evidence from survey context effects. *Journal of Sex Research, 36*, 348-360.
- Hodgson, D. (2005). A plain person's free will. *Journal of Consciousness Studies, 12*, 3-19.
- Kane, R. (2002). Introduction: The contours of contemporary free will debates. In R. Kane (Ed.), *The Oxford handbook of free will* (pp. 3-41). Oxford: Oxford University Press.
- Keller, J. (2005). In genes we trust: The biological component of psychological essentialism and its relationship to mechanisms of motivated social cognition. *Journal of Personality and Social Psychology, 88*, 686-702.
- Kingree, J. B., & Daves, W. F. (1997). Preliminary validation of the attitudes toward homelessness inventory. *Journal of Community Psychology, 25*, 265-288.
- Libet, B. (2002). Do we have free will? In R. Kane (Ed.), *The Oxford handbook of free will* (pp. 551-564). Oxford: Oxford University Press.
- MacIntyre, A. (1999). Social structures and their threats to moral agency. *Philosophy, 74*, 311-329.
- Mitchell, J. A. (2005). Biological determinants of *mens rea*: When choice fails to compensate for biopsychological perseveration. *Journal of Orthomolecular Medicine, 20*, 35-49.
- Nagel, T. (1986). *The view from nowhere*. New York: Oxford University Press.
- Nahmias, E. (2006). Folk fears about freedom and responsibility: Determinism vs. reductionism. *Journal of Cognition and Culture, 6*, 215-237.
- Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2004). The phenomenology of free will. *Journal of Consciousness Studies, 11*, 162-179.
- Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2005). Surveying freedom: Folk intuitions about free will and moral responsibility. *Philosophical Psychology, 18*, 561-584.
- Nahmias, E., Morris, S. G., Nadelhoffer, T. & Turner, J. (2006). Is incompatibilism intuitive? *Philosophy and Phenomenological Research, 73*, 28-53.
- Nelkin, D. K. (2004). The sense of freedom. In J. K. Campbell, M. O'Rourke, & D. Shier (Eds.), *Freedom and determinism* (pp. 105-113). Cambridge, MA: MIT Press.
- Nichols, S. (2004). The folk psychology of free will: Fits and starts. *Mind & Language, 19*, 473-502.
- Nichols, S., & Knobe, J. (2007). Moral responsibility and determinism: The cognitive science of folk intuitions. *Noûs, 41*, 663-685.
- Neuringer, A., Jensen, G., & Piff, P. (2007). Stochastic matching and the voluntary nature of choice. *Journal of the Experimental Analysis of Behavior, 88*, 1-28.
- Rokeach, M. (1960). *The open and closed mind*. New York: Basic Books.
- Skinner, B. F. (1972). *Beyond freedom and dignity*. New York: Alfred A. Knopf.
- Smart, J. J. C. (1970). Free will, praise, and blame. In G. Dworkin (Ed.), *Determinism, free will, and moral responsibility* (pp. 196-213). Englewood Cliffs, NJ: Prentice-Hall.
- Smilansky, S. (2005). Free will and respect for persons. *Midwest Studies in Philosophy, 29*, 248-261.
- Stace, W. T. (1952). *Religion and the modern mind*. Philadelphia: Lippincott.
- Stroessner, S. J., & Green, C. W. (1990). Effects of belief in free will or determinism on attitudes toward punishment and locus of control. *The Journal of Social Psychology, 130*, 789-799.
- Velmans, M. (2003). Preconscious free will. *Journal of Consciousness Studies, 10*, 42-61.

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- Viney, W., Parker-Martin, P., & Dotten, S. D. H. (1987). Beliefs in free will and determinism and lack of relation to punishment rationale and magnitude. *The Journal of General Psychology*, *115*, 15-23.
- Viney, W., Waldman, D. A., & Barchilon, J. (1982). Attitudes toward punishment in relation to beliefs in free will and determinism. *Human Relations*, *35*, 939-950.
- Watson, G. (1987). Free action and free will. *Mind*, *96*, 145-172.