

**NSF White Paper:
How and Why Do Close Relationships Shape Human Behavior?**

Grand Challenge Question: What are the mechanisms and underlying principles by which human close relationships structure behavior and experience such that close relationships are a very major influence on individual and societal well being?

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Abstract [199 words]

Human close interpersonal relationships have been convincingly demonstrated to have very large (often the largest effects of any variables studied) on virtually all aspects of life, including well-being, health, and diverse social phenomena ranging from crime and prejudice to workplace productivity and education. Findings are also clear and compelling that virtually all aspects of individual experience (e.g., emotion, cognition) that shape behavior are created or molded by relationships. Research, especially in the last 25 years, in a variety of disciplines and using widely diverse methods, has made tremendous progress in identifying the underlying mechanisms behind these various effects, and in formulating theoretical models about their operation. However, the central importance of relationships for all facets of human life (including for understanding basic behavioral processes), and the demonstrated ability of scientists to study these phenomena systematically, precisely, and successfully, has only begun to be appreciated in the various major disciplines. Nevertheless, it is now clear that the scientific study of close relationships to date has laid the groundwork for the social and behavioral sciences to make enormous, unprecedented advances in both basic knowledge of human behavior and the application of that knowledge to the most significant social issues facing humankind.

Grand Challenge Question: What are the mechanisms and underlying principles by which human close relationships structure behavior and experience such that close relationships are a very major influence on individual and societal well being?

Text [exactly 2,000 words]

Introduction/overview

Human close relationships, such as family, romantic, friendship, teacher-student, and close coworkers, are characterized by interdependence, frequency and diversity of interaction, and strong mutual influence. Here we briefly (a) review the substantial literature on the immense impact of relationships on virtually all aspects of individual and social life; (b) summarize some of the multi-disciplinary advances of the last 25 years in understanding basic processes accounting for this impact; then (c) describe how this work has only begun to realize the enormous opportunity such research promises for furthering our fundamental understanding of human behavior and the application of that knowledge for addressing the major social issues of our time.

Central importance of close relationships for all facets of human life

Well being. The existence of significant close relationships (vs. being socially isolated) and the quality of those relationships have been demonstrated to be the *most important factor* in individual psychological well being (satisfaction with life, sense of meaningfulness vs. distress, despair), both as a stable tendency and as a determinant of short-term fluctuations. At the extreme, for example, relationship problems are the major cause of suicide. Like most of the effects noted in this White Paper, the effect on well-being has been shown in a vast array of different kinds of studies including controlled laboratory experiments, representative one-time and longitudinal surveys, daily-diary and random-experience studies, qualitative interviews, neuroimaging and other biomarker studies, and work with nonhuman primates and rodents.

Health. Relationships play a key (often principle) role in illness susceptibility, intensity, and speed and likelihood of recovery. Effect sizes for relationship influences on mortality are of the same magnitude as obesity and smoking. Indeed, a recent meta-analysis reported in the *Proceedings of the National Academy of Sciences* demonstrated that being alone versus having successful significant relationships makes one about 1.5 times more likely to die prematurely. These effects span virtually every disease (e.g., heart disease, cancer) and cause of death that has been studied. Direct effects of relationships on mental health are even stronger. For example, almost half of those seeking psychotherapy do so because of relationship problems.

Broader social impact. Most violent crimes occur between people in close relationships (e.g., Americans are 3.67 times more likely to experience homicidal violence from a known other than from a stranger). A particularly promising avenue for reducing prejudice towards another group is turning out to be friendship—and not mere acquaintance or frequent interaction—with an individual in that group. (This has been demonstrated in controlled laboratory and field experiments and representative surveys, and in contexts ranging from ethnicity to religious conflict to police-community relations.) Nearly every review ever done of research on worker satisfaction and productivity concludes that the most important factor (more important than salary or physical working conditions) is relationships with coworkers and managers. Similarly,

the quality of teacher-student and student-student relationships plays a critical and large role in shaping attitudes towards school and in determining how much is learned. Further, all these examples are superseded by the long-term effects of family relationships (parent-parent, parent-child, sibling, extended families). One's childhood environment powerfully shapes adult well-being, health, crime and violence, prejudice, economic success (e.g., children of unmarried or divorced parents are much more likely to be poor), education, and of course the parenting of one's own children.

Basic behavioral and social processes. Reflecting both evolutionary and cultural forces, every facet of basic human experience and behavior is heavily shaped and even constructed by the close relationship context. Perhaps this is most obvious for emotions—virtually all of which are responses to relational events (e.g., separations; arguments; felt expressions of caring; intense love, hate, anger) or serve to convey social needs (e.g., expressions of grief or despair). Regarding language, the vast majority of language use (from the early evolutionary environment through modern urban societies) occurs among family, friends, and close co-workers. Many scholars believe that language evolved to facilitate communication within families and groups of close associates. Cognition, including what we think about, how we think about it, what we recall and don't, what is conscious and what is not, how we organize cognitive elements, and so forth, have all been found to be significantly shaped by relationship-relevant motivations and experiences. It is becoming increasingly plausible that much of what is unique about human (and all primate) cognition is its role in the context of effective social functioning with relationship partners. This is also seen for physiological experiences. For example, physical pain (both experienced and neural indicators) is less when holding a spouse's hand or when viewing an image of a loved one. (Also, some data suggest social pain evokes the same neural response as physical pain.) Even basic perceptual processes are turning out to be fashioned at least in part by relationship context. For example, one recent study found that hills *look* less steep, drop less far when with a close partner. Of course the neural processes (shown in an increasing array of fMRI, ERP, and various biomarker studies) and behaviors associated with these emotions, cognitions, and so forth, are also necessarily a function of the influence of relationships. In short, there are few if any factors that have as pervasive or influential effects on human activity as do close relationships.

Immense progress in the last 25 years

There have been longstanding small (but persistent) streams of relevant work in fields such as family sociology, the social psychology of interpersonal attraction, and the biology of mate selection. Yet, these streams were typically seen as secondary to major research trends in these disciplines. However, the last 25 years have witnessed a dramatic explosion of new and empirically rigorous relationship research and the beginning of a wider appreciation of the importance of this work throughout the various disciplinary mainstreams. There are, for example, two major social science journals devoted exclusively to relationship research; numerous handbooks, edited books, and even a recent encyclopedia; a large, influential international organization of researchers; and frequent smaller conferences (e.g., "relationship pre-conferences" at major disciplinary meetings). Psychology, communication, and sociology departments at most research universities include tenured faculty whose primary focus is relationships. It is also increasingly common for faculty in a range of other departments (e.g., neuroscience, economics, political science, physical and cultural anthropology, animal behavior) to have relationships as a major part of their research. Simultaneously, it is increasingly

common for the research published in the major journals across these fields (and in prestigious general journals such as *Science* and *Nature*) to include relationship studies. Most major universities now offer both undergraduate and graduate courses on the scientific study of relationships.

This research effort has been enormously productive. We have learned about a great diversity of important processes and are beginning to integrate these contributions into the traditional disciplines. We know much, for example, about the underlying principles behind relationship processes that are either beneficial (e.g., processes that allow people to go out and explore and accomplish things) or detrimental to well being (e.g., processes that explain why abused spouses return to abusers), and about processes (and the underlying reasons) that can be constructive in one setting or set of circumstances and destructive in another (e.g., forgiveness). Increasingly, we know also about how these processes shape and are shaped by evolution, genetics, associated neural and hormonal functioning, individual and cultural environment, and specific long-term and momentary situational contexts. That is, we are coming to understand not just that relationships have huge effects on all kinds of things, but *why and how* those effects operate.

This progress has been multi-disciplinary and employs a great diversity of complementary methods. There has also been significant progress in developing fundamental theory, much of which is guided by a few widely influential and well supported conceptual frameworks, such as interdependence theory, the self-expansion model, the communal-exchange approach, the intimacy model, and the recent risk-regulation model from social psychology; attachment theory originally from developmental psychology; precise conceptual frameworks based on evolutionary models; and applications of mathematical models from economics, network analysis, and other disciplines. Importantly, we are beginning to see integration of different relationship theories and integration of relationship theories with models developed in non-relationship contexts.

What now?

Although there has been tremendous progress in recent years, this has only opened up even greater opportunities for advancing knowledge (and application to addressing social problems). The direct research by those focusing on relationships largely has been done in a scientific climate that emphasized individual, non-relational processes, often treating relationships as epiphenomena. Only recently have behavioral scientists begun to see close relationships as central factors in the construction of individual processes such as social attitudes, emotion, motivation, and self-regulation, and only even more recently in cognition, memory, language, and perception. Also, only very recently are behavioral scientists beginning to consider the possibility that relationships are causal units in social and individual life. Finally, only in the last decade have neuroscientists taken relationships seriously and relationship researchers have begun to make substantial use of neuroscience methods and to integrate their work with animal research.

In short, we have begun to identify and precisely describe important beneficial and harmful processes, as well as the individual differences and situational factors that can predict who engages in which of them to what extent and under what conditions. But the most important questions remain. What we have accomplished demonstrates that this is a field that can be studied successfully and there is a solid groundwork on which future work can be based.

Key directions for the coming years

1. As new methods become available, many of which are expensive to implement, resources are needed for them to be made widely accessible to the research community. Methods already proven successful include representative sampling, cross-cultural, longitudinal, neuroimaging and biomarkers, ambulatory assessment, nonstudent samples, animal models, eye-tracking, precise assessment of nonconscious automatic associations, and mathematical modeling. Even more important will be the ability to take advantage of additional new methods likely to be developed.
2. A major almost untapped area is how relationships operate as psychological and social entities over and above the individuals that comprise them.
3. Social and behavioral science disciplines historically ignored or gave peripheral status to relationships. Yet, as noted, increasingly it is turning out that phenomena once thought to be individually based or purely a function of larger social structure are not only moderated and mediated by relationship phenomena, but often relationship variables play the primary causal role. As these phenomena are considered within varying relationship contexts, the very nature of what had been thought to be established general findings are sometimes turned on their heads.
4. Collaboration: Relationship research clearly will benefit greatly from expanded collaboration and extension to the entire diversity of social and behavioral sciences—and beyond. As Harold Kelley remarked, "Basic knowledge within the social, behavioral, and biological sciences is essential to an understanding of human relationships. Here we wish to make a case for the opposite point, that basic knowledge of close relationships is *essential* to the other disciplines ... (s)ince many human characteristics are determined by the nature of social relationships, the knowledge contributed by a science of relationships ... is indispensable for the full development of both psychological science and social science." (p. 486, italics from the original)

Summary, conclusion

This Grand Challenge Question is foundational and transformative. It focuses on basic phenomena throughout the social and behavioral sciences. At the same time, it challenges the for-too-long overarching implicit assumption that these can be understood while treating as secondary human beings' central nature as embedded in close interpersonal relationships. Moreover, focus on this question has shown itself necessarily interdisciplinary.

In sum, (a) although it is now well established that close relationships are fundamental to all areas of human life and (b) a great deal has been learned to date (especially recently), (c) these advances only lay the groundwork for the social and behavioral sciences to make enormous, unprecedented advances in both basic knowledge of human behavior and the application of that knowledge to the most significant social issues facing humankind.

Three references (sources of grand overviews)

Berscheid, E. (1999). The greening of relationship science. *American Psychologist*, 54, 260 – 266. [Foundational, ahead-of-its-time argument in the top psychology journal for points made in this White Paper]

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