

Review

Prosocial and punishment behaviors in everyday life

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Abstract

Theory and experiments suggest people have different strategies (1) to condition their prosocial behavior in ways that maximize individual benefits and (2) to punish others who have exploited their own and others' prosocial behaviors. To date, most research testing existing theories has relied on experiments. However, documenting prosocial and punishment behaviors outside of the laboratory via experience sampling and diary methods can yield additional, rich insights. Recent work demonstrates these methods can describe social behaviors in daily life and be used to test theory about how behaviors change across situations and relationships. These methods have exposed discrepancies between what people experience in daily life and the problems researchers want to solve to understand the nature of human prosociality.

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Humans engage in prosocial behaviors across a wide diversity of situations and relationships in daily life.

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People experience kindness from their family members at home, receive support from colleagues at work, call on their friends in times of need, and can even be offered assistance by a stranger when traveling far from home. Prosocial behaviors include any behaviors that provide benefits to others [1]. Prosocial behaviors can be costly to the actors (e.g. social dilemmas [2]), but these behaviors may also simply involve a mutual benefit between the actor and recipient (e.g. coordination tasks [1]). Nonetheless, humans can receive immense benefits from others throughout their lifetime, and these benefits can directly translate to the survival and reproductive success of individuals [3,4].

Indeed, evolutionary processes could have produced adaptations that enable humans to behave in ways that maximize the fitness benefits they receive from others, such as a willingness to reciprocate, cooperating with others who have a good reputation, and selecting trustworthy relationship partners [5,6]. Yet, it is well-known that costly prosocial behaviors in relationships can also be exploited by the recipients, and so evolution may have also equipped humans with a suite of abilities to impose costs on those who don't reciprocate, free ride on the group, cheat, and violate cooperative norms [7–9]. Decades of theory and modeling work suggest that humans may have many different conditional strategies of when they engage in prosocial behaviors [10] and also different kinds of punishment strategies (e.g. direct aggression, gossip, and avoidance) that can impose costs on cheaters and free riders and ultimately promote prosocial behaviors within dyads and groups [11–14].

Most research on human prosocial behaviors and punishment behaviors has been performed in artificial, abstract, laboratory settings, such as with economic games [15–17]. These methods offer a valuable, internally valid context for theory testing. That said, theories of prosocial behaviors are ultimately not about behavior in the laboratory. Instead, these theories should aim to explain the natural phenomenon of prosocial behaviors in daily life and within the great diversity of situations and relationships people experience. Empirical work on any natural phenomenon must also document that phenomenon within its natural setting to delineate what theory must explain and to even guide scientists toward the kind of theories they should develop [18–20]. This kind of work on the study of prosocial

behaviors and punishment behaviors is lacking — at least within psychology and economics (although excellent examples exist within anthropology, see studies reported by Kasper and Mulder, Bliege Bird and Power, Jaeggi and Gुरुven, and Weissner [21–24]). Recent work demonstrates how descriptive research, especially with the use of experience sampling and diary methods, can advance our understanding of these phenomena. We next outline the value of these methods and then discuss some insights gained from applying these methods to the study of prosocial behaviors and punishment behaviors in daily life.

The study of social behavior outside the laboratory: experience sampling and diary methods

There exists a critical limitation in the practice of psychological science — descriptive research that documents human social behavior in its natural setting is largely being neglected at the expense of an eagerness to study social behavior through controlled experimentation [19,20]. This approach contrasts sharply with research in biology. For example, the study of social behavior of nonhuman animals involves intensive behavioral observation and description of behavior in their natural habitat [25]. Perhaps, because humans have a rich first-hand experience to draw on when practicing psychological science, this precludes the necessity to conduct descriptive research of social behaviors in natural settings, and research can move more quickly to the laboratory. But this approach is mistaken.

To illustrate, researchers have often made assumptions about the kinds of situations in which people engage in prosocial behavior, such as situations involving conflicting interests (e.g. social dilemmas). In addition, most laboratory experiments have examined social behaviors in the context of interactions between strangers and acquaintances. However, recent research has discovered that high conflict of interest situations among strangers compose only a small fraction of what people perceived to actually experience in daily life [26]. We need theory and empirical research about prosocial behaviors that more broadly sample the kinds of situations and relationships in which these behaviors occur.

Research can benefit from getting closer to the phenomena that theory is developed to explain, and two methods that allow for this are experience sampling and diary methods [27,28]. With experience sampling, researchers can contact participants multiple times throughout the day and have participants report on social behaviors they have recently experienced across diverse real-life situations and relationships. Diary methods involve asking participants at the end of the day to report on events they experienced during that day [29]. Both of these methods can be used to measure

how people self-report to have behaved within their daily lives and obtain these reports close in time to when these events actually happened, thereby reducing the problem of a recall bias affecting reports [30,31].

These methods offer several benefits to the study of prosocial behaviors and punishment behaviors in daily life settings. First, experience sampling and diary methods can be used to describe and document social behaviors and the context and relationships in which they occur. Second, these methods can be used to test how certain social behaviors vary across situations and relationships, which can provide a test of theory and/or identify variation in phenomena that theory should explain. Third, experience sampling and diary studies are conducted longitudinally, with repeated measures over time. Therefore, these methods can be used to study social dynamics that play out over extended periods of time and which cannot be captured in most laboratory settings. Finally, researchers can compare how participants behave in laboratory tasks to their reported behaviors in daily life using these methods. However, despite these benefits, these methods each rely on self-reports of own and other's behavior and so can be used in combination with other field methods that involve the direct observation of behavior, such as ethnographic methods and lab-in-the-field studies. Next, we illustrate how research applying these methods has obtained the benefits outlined previously for the study of prosocial and punishment behaviors in daily life.

Prosocial behavior in daily life

Recent work has used experience sampling methods with a Dutch community sample to study how participants perceived their interdependence with others [32] and their prosocial behavior across different situations and relationships in daily life [26]. This study sent a short survey seven times a day for seven days to participants requesting that they report on the most recent situation they experienced in which another person was present. Participants reported most frequently experiencing social interactions that were characterized by medium to high levels of mutual dependence (i.e. the degree that each person's outcomes are determined by how each person behaves), high corresponding (versus conflicting) interests (i.e. the behavior that results in the best outcome for one person is the best (worst) outcome for others), and equal power (i.e. each individual's behavior can determine their own and other's outcomes to a similar extent). Of the total number of reports ($k = 7167$), the frequency of interactions experienced with strangers (10.2%) was lower than that reported with close relationship partners (e.g. romantic partner: 18.5%, family: 20.0%, and friends: 20.0%).

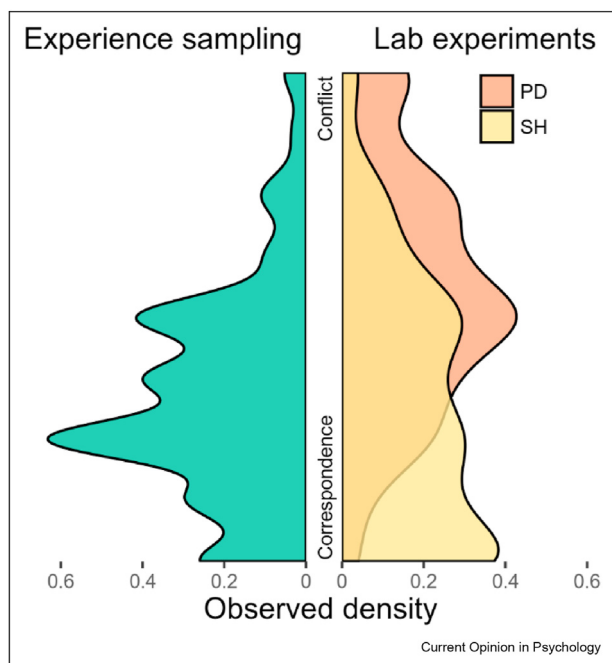
In the intake of the same study, participants interacted with a stranger in two commonly used laboratory

paradigms to study prosocial behavior — the prisoner's dilemma and stag hunt game — and participants rated their perceived interdependence with others in those situations. Importantly, in the stag hunt game, mutual cooperation results in the best possible outcome, whereas in the prisoner's dilemma, the best possible outcome is achieved by exploiting one's partner (i.e. deciding not to cooperate, whereas one's partner cooperates). Therefore, the stag hunt game has greater corresponding (versus conflicting) interests compared with the prisoner's dilemma. Participants' ratings of their interdependence in the stag hunt, compared to the prisoner's dilemma, were more similar to how people reported experiencing interdependent situations in their daily lives (see Figure 1). Furthermore, in an additional sample, Dutch couples in a close romantic relationship were recruited for the study, and using the same experience sampling approach described previously, participants reported on the most recent social interaction with their partner ($k = 6717$). This approach allowed for an analysis of temporal dynamics within relationships. For example, couples who experienced situations with (on average) higher conflicting interests during the week of experience sampling also displayed a decrease in commitment from time 1 (one day before the experience sampling) to time 2 (one week after the experience sampling). Additional analyses found that

experiencing conflicting interests also had more immediate effects on trust in one's partner. Such temporal dynamics that occur in relationships across days and weeks are difficult (if not impossible) to study in a controlled, laboratory setting.

A key predictor of prosocial behavior is trust in others (i.e. a belief about the extent to which others value one's welfare), and a recent experience sampling study examined trust in everyday interactions across relationships and situations [33]. This study had a German sample report on their most recent social interactions, five times a day for five days. They found that trust varied across situations and relationships in predictable ways. Trust was lower in situations that involved a conflict of interests, although it was also more predictive of self-reported prosocial behavior in situations that involved conflicting interests — a finding which replicated laboratory research on interactions among strangers [34]. Furthermore, trust had a clear positive association with the closeness people reported within their relationship. During an intake procedure, participants interacted with strangers in a common paradigm used to study trust behavior (i.e. the trust game [35]), and it was found that their behavior in the trust game predicted their trust in strangers in everyday life, but not their trust in other, close relationship partners.

Figure 1



Perceived conflict of interests during interactions with strangers within common laboratory paradigms, compared to experience sampling in the field. Perceived conflict of interests in interactions with strangers in everyday situations (left) and in two common economic games in the laboratory, the prisoner's dilemma (PD) and the stag hunt (SH). Everyday situations are, most typically, perceived as more akin to the SH than to the PD.

In summary, these studies demonstrate how experience sampling can contribute to our understanding of prosocial behavior. Across these studies, participants reported on a broad variety of social interactions experienced with different kinds of relationship partners. Interactions varied in interdependence, and observed patterns of interdependence covaried with trust and prosocial behavior. Furthermore, these studies clearly communicate that the study of prosocial behaviors amongst strangers in laboratory settings that have a narrow range of interdependence (e.g. mostly involving conflicting interests) is insufficient for understanding the variety of prosocial behaviors observed in daily life.

Punishment behaviors in daily life

Recently, Molho et al. [36] used a diary method to have people report on norm violations that they witnessed that day, which either directly affected themselves (second party) or affected others (third party). Furthermore, participants were asked how they behaved in response to the norm violator on the day that the norm violation occurred and one week after the norm violation. Possible behavioral, punishment responses were based on previous theory and included direct confrontation (e.g. verbal and physical), gossip (i.e. communication about the norm violator in their absence [37]), and exclusion. A Dutch community sample

($N = 257$) reported on a wide variety of norm violations in daily life ($k = 1507$), and punishment behaviors also varied widely with the relationship context in which the norm violation occurred. For example, when people were in a high power position in relation to the perpetrator, they were more likely to directly confront them, but they were more likely to gossip or avoid the perpetrator when they had lower power in the relationship. People were also more likely to directly confront a perpetrator with whom they had a close relationship. Power and closeness are two features that do not vary much within laboratory experiments on punishment behaviors, which have mostly focused on interactions between strangers with equal power. When focusing on punishment responses to violations specifically involving strangers (i.e. situations that more closely resemble second and third-party punishment experiments), this study found that the direct kinds of punishment often observed in the laboratory are actually rare in daily life interactions between strangers (see Figure 2).

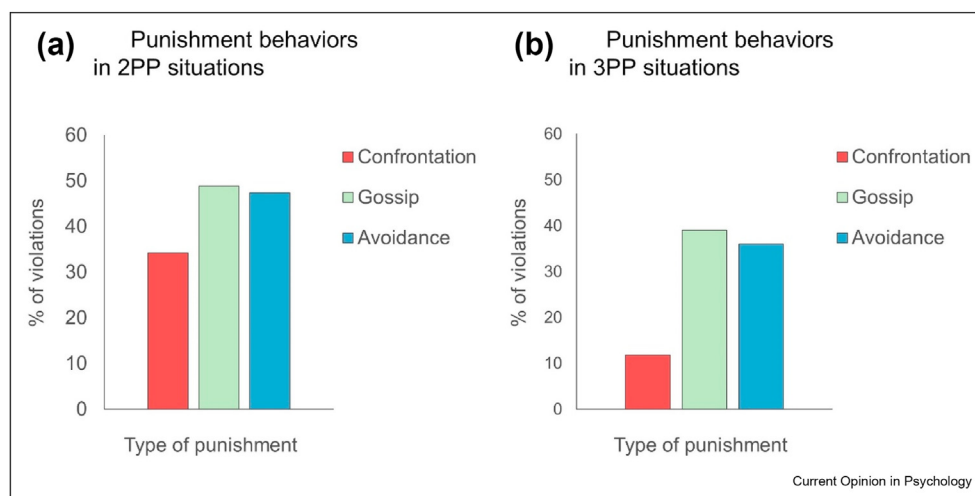
One strategy to impose costs on people who exploit others is to gossip about their behavior. Dores Cruz *et al.* [38] used an experience sampling approach and sent surveys to Dutch participants ($N = 309$) four times a day for ten days that had participants report on the most recent event in which they either sent or received gossip ($k = 5284$ gossip reports). The content of gossip varied and communicated many qualities of the target, such as trustworthiness, warmth, competence, and dominance (see also [39]). Only a minority of the gossip reports were about a norm violation (14.8%), but when a norm violation was reported, then the gossip portrayed the

target as less trustworthy, warm, and competent but slightly more dominant. Gossip also covaried with the quality of the relationship participants had with the target and recipient of gossip. For example, people were more likely to gossip about a relationship partner who was assigned a low value. Participants were also asked during an intake procedure to report on the relationship value they assigned to 15 people whom they most frequently interacted with in daily life, and then later were asked whether the gossip they received was about one of these persons reported at intake. When the participant received gossip that portrayed one of these people as less trustworthy, this was associated with a decrease in the relationship value from intake to the time in which the participants received the gossip. Furthermore, this decrease in the relationship value was associated with increased intentions to avoid the person and reduced intentions to help. These findings support a theory that gossip can enable indirect reciprocity and partner selection in ways that promote prosocial behavior [40] but at the same time demonstrate that research on gossip must consider the relationship contexts in which people gossip.

Conclusion

Recent research in psychology has ventured outside the laboratory and used experience sampling and diary methods to study prosocial behaviors, as well as punishment responses to others' noncooperative behaviors, in everyday life. Besides uncovering numerous ways in which these behaviors vary across situations and relationships, these studies raise awareness of two issues that should be addressed in future work. First, the kinds

Figure 2



Type of second-party and third-party punishment behaviors people report in response to norm violations in daily life. Percentages of violations to which participants responded with each type of punishment behavior in daily life situations resembling second-party punishment (2 PP) tasks where perpetrators are strangers (Panel a; $k = 403$) and in situations resembling third-party punishment (3 PP) tasks where both perpetrators and victims are strangers (Panel b; $k = 136$).

of situations that researchers have been studying in the laboratory do not necessarily reflect the situations that are frequently experienced in daily life (i.e. coordination and cooperation in close relationships). In part, this could be owing to researchers deciding that it is more important to study theoretically interesting problems, as opposed to situations that are common. Specifically, theory has emphasized understanding prosocial and punishment behaviors in situations involving a conflict of interests (such as the prisoner's dilemma), as well as cooperation among people who have no interaction history, or known reputation, and potential for future interaction (i.e. impersonal cooperation) [41,42]. This is because prosocial behavior in these contexts is challenging to explain. We do not dispute the value of this theory-oriented approach, but the results of this work may not take us far in understanding most of the prosocial behaviors in daily life — and those frequently experienced situations should also be included on the research agenda.

Second, people interact with others with whom they have relationships that vary in quality, such as more or less valuable, and in interdependence, such as more or less dependent, conflictual, and asymmetric in terms of power [26,43]. The experience sampling and diary studies clearly demonstrate that prosocial behavior and punishment behaviors in responses to others' norm violations vary depending on the quality of a relationship [36,44]. Yet, most work on social behaviors has been performed in the laboratory focusing on interactions with strangers. Although these laboratory paradigms can inform our understanding of social behaviors in daily life under equivalent circumstances, such as interactions between strangers, their results do not help us understand social behaviors across relationships that vary as per several theoretically relevant qualities. Therefore, future research can study how humans condition strategies of prosocial behavior in response to different relationships.

Theory should be developed that can explain the full range of a social phenomenon, such as prosocial and punishment behaviors, as these occur across situations and relationships in daily life. To do so, we need to use field methods that document the full range of the phenomenon, to bring to light variation in behavior that theory must explain, and guide researchers toward the use of experimental paradigms that are more aligned with the natural settings in which social behaviors occur.

Conflict of interest statement

Nothing declared.

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* of special interest

** of outstanding interest

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