

When Prosocial Dispositions Become Effective Help: The Prosocial Translation Model

Kevin L. Michel

Saint Lucia Centre for Psychological Science

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Author Note

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Abstract

Why does the same person help in one moment but not another, and why do people with similar prosocial intentions produce different outcomes? Dispositional accounts identify relatively stable tendencies associated with helping, while situational accounts identify conditions that permit or suppress action. Both approaches often treat helping as a single endpoint. This critical integrative review develops the Prosocial Translation Model (PTM), a person $\times$ situation theory in which effective help is an episode-level accomplishment across functionally distinct transitions: opportunity exposure, recognition of need, acceptance of responsibility, response selection, enactment, and recipient benefit. The PTM makes four commitments. It separates exposure from conversion, models person attributes and situational affordances at the transitions they can plausibly influence, distinguishes intention and completed action from recipient benefit, and requires comparison with simpler and bypass architectures. A corrected probability formulation defines the canonical pathway as a joint event rather than equating it with benefit alone. The model also distinguishes observed improvement from causal net benefit. Ten falsifiable propositions specify differentiated translation profiles, stage-matched interactions, situational substitution and amplification, gated intervention effects, held-out joint calibration, selection into helping ecologies, transition-specific learning, resource constraints, and action-outcome divergence. A measurement framework and four-study program show how the PTM can be preregistered, tested, and rejected. The model's proposed contribution is not a new list of helping stages. It is an opportunity-adjusted, multilevel, recipient-centered architecture for explaining when prosocial dispositions become consequential for others.

Keywords: helping behavior, personality, person-situation interaction, prosocial behavior, recipient benefit, socialization

When Prosocial Dispositions Become Effective Help: The Prosocial Translation Model

A person can care and fail to notice. A person can notice and assume that someone else will act. Someone can accept responsibility but see no safe or useful response, decide to help but fail to complete the action, or act with good intentions and leave the recipient no better off. These are not minor variations of one outcome. They are different failures in the translation of a prosocial possibility into a beneficial result.

This distinction matters for personality science. Research has identified broad and narrow attributes associated with prosocial behavior, including agreeableness, honesty-humility, empathic concern, moral identity, social value orientation, and beliefs about others. No single attribute has been shown to predict helping uniformly across contexts. A large meta-analysis of economic games found that associations between personality and behavior depended on the affordances of the game, including exploitation, reciprocity, temporal conflict, and dependence under uncertainty (Thielmann et al., 2020). A large preregistered test using 21 traits and six incentivized games yielded mixed support: some predicted trait-affordance matches emerged, while others were selective or weak (Popov & Thielmann, 2025). In another large sample, 81 personality traits explained 13.9% of the variance in an incentivized social value orientation score, but that criterion was an aggregated preference measure rather than the full ecology of real-world helping (Nielsen et al., 2025). These findings become more coherent when attributes are expected to influence particular functions in particular situations instead of an undifferentiated quantity called prosociality.

Situation research presents the complementary problem. The classic bystander tradition showed that the presence of others can inhibit intervention through ambiguity and diffusion of responsibility (Darley & Latané, 1968; Latané & Darley, 1970). A later meta-analysis confirmed

an average bystander effect while showing variation by danger, perpetrator presence, and intervention cost (Fischer et al., 2011). Cross-national video evidence from public conflicts found that intervention was common and that the probability of at least one intervention increased with group size (Philpot et al., 2020). The apparent tension is informative. Other people can increase ambiguity and diffuse individual responsibility, but they can also supply information, competence, coordination, and multiple chances that someone will act. “The situation” does not exert one global force. It changes the cues, duties, options, costs, and friction relevant at different points in an episode.

The Prosocial Translation Model (PTM) integrates staged accounts of bystander intervention, multilevel accounts of prosocial behavior, person-situation theory, intention-behavior research, and contemporary work on prosocial motives and decisions (Conner & Norman, 2022; Erlandsson & Dickert, 2025; Penner et al., 2005; Sheeran & Webb, 2016; Thielmann et al., 2020; Wu et al., 2026). Its distinctive claim is not that recognition, responsibility, and implementation have never been separated. Related functions appear in the bystander model, normative decision models of altruism, and moral-action theories (Latané & Darley, 1970; Rest, 1986; Schwartz & Howard, 1981). The PTM’s contribution is an explicit architecture that begins with an opportunity denominator, maps person and situation variables onto conditional transitions, treats episodes as nested within people, recipients, roles, and settings, continues beyond intention to verified enactment, and continues beyond action to recipient-centered benefit.

The model makes four practical revisions to common research practice. First, it treats opportunities to help as part of the explanation instead of assuming equal exposure. Second, it represents helping as a set of distinguishable transitions. Third, it defines prosocial expression as

a profile of conditional propensities rather than a raw act count or moral rank. Fourth, it requires the added architecture to outperform simpler endpoint, one-factor, and parallel-process models. Complexity that does not improve explanation, prediction, or intervention targeting should be discarded.

Evidence-Synthesis Boundary

This article is a critical integrative review and theory proposal, not a systematic review or meta-analysis. The literature was selected to connect personality and individual differences, bystander intervention, prosocial decision making, developmental and behavioral-genetic research, experience sampling, measurement, and causal design. Priority was given to meta-analyses, preregistered or large-sample studies, naturalistic evidence, and work bearing directly on a proposed transition. The cited evidence is neither exhaustive nor the product of a registered search protocol. Empirical examples therefore inform specific theoretical claims; they should not be interpreted as unbiased estimates of every effect in the prosociality literature.

What Counts as Helping?

A Heterogeneous Construct

Prosociality is an umbrella term that can include helping, sharing, comforting, cooperation, volunteering, donation, and other actions intended to benefit a person or collective. These behaviors do not necessarily share the same eliciting needs, skills, motives, or consequences. Dunfield (2014), for example, distinguishes responses to instrumental need, unequal access to material resources, and emotional distress because helping, sharing, and comforting require different forms of social understanding. Recent reviews also document major variation in how prosocial, altruistic, helping, and related behaviors are defined and measured

(Binder et al., 2026; Lovett et al., 2026). Treating them as interchangeable can obscure both person effects and situation effects.

The PTM focuses on targeted helping episodes. An episode exists when a person, group, or coordinated system could respond to an externally assessable need of an identifiable recipient, group, or collective. A response can be spontaneous or planned, direct or mediated, material or emotional. The model can be adapted to cooperation and public-goods behavior, but it does not assume that every allocation, norm-compliant act, or cooperative exchange is psychologically equivalent to responding to need.

Intention, Action, Reception, and Benefit

At least four criteria must be separated. A prosocial intention is a commitment or preference to benefit another. A prosocial action is behavior undertaken partly for that purpose, whether or not it is completed or succeeds. A received response is assistance that reaches the intended recipient or target system and can be accepted, rejected, or ignored. Effective help is a response that produces a recipient-relevant net benefit, compared with a defensible alternative, without imposing unaccepted or disproportionate harm. Motive purity is not required. Mixed motives can produce useful action, and sincere altruistic motives can produce ineffective or harmful action.

Recipient benefit cannot be defined solely by helper judgment. Recipients may experience a response as intrusive, stigmatizing, autonomy-reducing, poorly matched, delayed, or useless. Indicators can include recipient acceptance, recipient-reported usefulness, independently observed problem resolution, objective change, and avoidance of foreseeable harm. These indicators can disagree and should remain distinguishable.

Observed improvement after an action is also not proof that the action caused the improvement. Let $Y(a)$ denote a recipient outcome under response a , and let $Y(a_0)$ denote the outcome under a defensible comparator, such as no action, usual response, or the best available alternative. The episode-level causal contrast is:

$$\Delta_{it}(a, a_0) = Y_{it}(a) - Y_{it}(a_0) \quad (1)$$

Only one potential outcome is observed for a given episode. Individual causal benefit is therefore not directly identified. Randomized, quasi-experimental, longitudinal, or carefully triangulated designs can estimate average causal effects, while recipient experience and verified resolution remain valuable but different criteria. The PTM uses benefit as an outcome family, not as a claim that every episode permits definitive causal attribution.

Counts Without Opportunities Are Ambiguous

Suppose two people each help three times in a week. One encountered four clear opportunities; the other encountered 20. The count is identical, but the conditional response rates differ. Conversely, a person may encounter many opportunities because they selected caregiving, service, or high-contact roles. A high count can reflect exposure, conversion, or both.

Experience-sampling studies document within-person variation in everyday empathy, affect, compassion, and prosocial behavior across moments (Depow et al., 2021; Laguna et al., 2022; Runyan et al., 2019). In Depow et al. (2021), daily empathy was associated with prosocial behavior, while trait empathy was not. Raw frequencies blend at least three processes: selection into contexts where needs occur, detection of needs within those contexts, and response after detection. Opportunity exposure is not a nuisance to remove in every analysis. It is part of the ecology of helping. It must nevertheless be distinguished from conditional response if the goal is to infer a person's propensity to translate opportunities into action or benefit.

The denominator is difficult. Asking helpers retrospectively whether an opportunity existed makes opportunity status depend on recognition and can reproduce the bias the adjustment was meant to solve. Better denominators come from standardized prompts, independently sampled settings, third-party event coding, platform exposure logs, potential-recipient reports, or designs that place participants in a known common opportunity set. An externally assessed opportunity should not mean that any need anywhere counts. An opportunity must be defined relative to the actor's realistic perceptual and action range, available role, safety, and feasible response set.

Conditioning on opportunities also changes the estimand and can introduce selection bias when personality or context affects exposure. Studies should therefore report both total real-world helpful output, including selected exposure, and within-opportunity translation under clearly defined opportunity sets. Neither estimand is universally superior. They answer different questions (Lundberg et al., 2021).

Existing Explanations and the Missing Link

Dispositions Predict Selectively

There is credible evidence for dispositional regularity in helping, but it is neither uniform nor context-free. Agreeableness is associated with empathic reactions to victims and subsequent helping across several laboratory paradigms (Graziano et al., 2007; Habashi et al., 2016).

Empathy has a positive average association with prosocial behavior, with heterogeneity across cultures, samples, and measurement methods (Yin & Wang, 2023). Moral identity, conceptualized partly as the self-importance of moral traits (Aquino & Reed, 2002), has a modest meta-analytic association with moral behavior ($r = .22$), with larger effects in studies based entirely on self-report (Hertz & Krettenauer, 2016). Economic games show reliable links

between narrower dispositions and behavior when the task makes the corresponding concern diagnostic, but they provide little support for one universally prosocial trait (Thielmann et al., 2020). Correspondence among personality, economic preferences, and costly real-world prosociality remains incomplete (Ferguson et al., 2019).

Everyday assessments similarly show that state empathy covaries with prosocial action even when global trait reports have limited correspondence with momentary experience (Depow et al., 2021). These patterns do not imply that traits are unreal. They imply that prediction requires a process and a situation. Agreeableness may sensitize attention to another's distress, lower a threshold for accepting interpersonal responsibility, or change the subjective value of a costly response. Conscientiousness may matter less for noticing distress than for completing a promised task. Moral identity may matter most when ownership is ambiguous and inaction can be interpreted as inconsistent with the self. Treating these attributes as general causes of a summed prosocial score discards the mechanism that makes each prediction plausible.

Situations Are Bundles of Transition-Relevant Affordances

Situations do not simply increase or decrease helping. They present cues and constraints. Need clarity affects recognition. The presence and behavior of others inform both interpretation and responsibility. Expected cost, efficacy, and impact shape response selection. Time pressure, access, role permissions, and procedural friction constrain enactment. Recipient feedback shapes whether an action becomes beneficial and whether a similar response is repeated. General situation taxonomies can describe broad psychological characteristics, but a process theory also needs features tied to specific functions (Rauthmann et al., 2014).

The bystander literature illustrates this decomposition. Other people can generate pluralistic ignorance at recognition, diffuse responsibility at the responsibility transition, signal

danger or competence during response selection, and supply coordination resources during enactment. Group membership can change who is treated as a legitimate target of responsibility (Levine et al., 2005). This helps explain why group presence can inhibit an individual's intervention while increasing the probability that at least one person intervenes (Fischer et al., 2011; Philpot et al., 2020). Number of bystanders is not one psychological mechanism. It changes several transition-relevant features whose effects can oppose one another.

Situation strength is also transition-specific. Clear cues can reduce the role of perceptual differences at recognition. Explicit assignment can reduce ambiguity about responsibility. A recommended response can substitute for response knowledge, while a simple action path can reduce dependence on self-regulatory capacity. Strong structure can compress individual differences, but it can also amplify them when the structure creates access to a motive or skill that was previously blocked. The direction and location of person $\times$ situation interaction must therefore be predicted, not assumed (Meyer et al., 2010).

Developmental and Biological Evidence Does Not Yield a Global Verdict

Prosocial tendencies show continuity and change across development, and genetically informative studies find heritable variation in parent- or self-reported prosociality (Gregory et al., 2009; Knafo & Plomin, 2006; Knafo-Noam et al., 2015). Such estimates describe variance in particular populations, ages, measures, and environments. They do not partition an individual's helping into fixed genetic and environmental percentages, identify the transition through which inherited differences operate, or demonstrate immutability. Broad ratings also combine opportunity, perception, motivation, capacity, and reporter effects.

The same construct caution applies to empathy. Twin syntheses distinguish emotional and cognitive components (Abramson et al., 2020), while a large genome-wide study found

diffuse, modest SNP-based heritability of self-reported empathy and no single genome-wide significant locus (Warrier et al., 2018). This evidence is inconsistent with a simple helping-gene account. It is more compatible with many small influences that operate through development, environments, and multiple psychological functions.

Social experience is equally heterogeneous. Authoritative parenting has a small positive meta-analytic association with children's and adolescents' prosocial behavior, while authoritarian parenting has a small negative association; estimates vary by parenting and prosociality subtype (Wong et al., 2021). In small correlational studies, parents' elicitation of toddlers' emotion talk during picture-book reading, rather than parents' own emotion labeling, was associated with faster or more frequent sharing and empathic or altruistic helping (Brownell et al., 2013). Peers, institutions, cultural norms, and socioeconomic resources influence which needs are visible, who is considered responsible, which responses are legitimate, and whether a chosen response is feasible. Across societies, children can become more responsive to normative information while developing different allocation patterns (House et al., 2020). A large meta-analysis found a very small positive association between higher social class and prosociality ($r = .065$); the association was larger for behavior involving actual resource commitment ($r = .079$) than for intentions ($r = .039$). This moderator pattern is consistent with, but does not establish, a resource or affordance mechanism (Wu et al., 2025). These pathways can correlate with inherited propensities through passive, evocative, and active person-environment transactions. The useful question is not whether genes or environments matter more in the abstract. It is which developmental processes calibrate which transition propensities, under which conditions, and with what evidence.

Decision Models Start Too Late or Stop Too Early

Contemporary work gives sophisticated accounts of prosocial choice. Erlandsson and Dickert's (2025) typology organizes motives into emotions, moral principles, anticipated impact, and anticipated personal consequences. Beneficiary characteristics can also produce unequal valuations of otherwise comparable help (Erlandsson et al., 2024). Judgments across 100 naturalistic helping scenarios were predicted by perceived benefits, helper costs, and an individual helping bias (Wu et al., 2026). These frameworks clarify why a person may choose one response over another once a need and decision are represented.

The PTM asks how the episode reached that decision and what followed it. A cost-benefit model cannot by itself explain a need that was never detected, responsibility that was never accepted, or a selected response that was never completed. General intention-behavior research likewise shows that intentions do not guarantee action and that planning, control, and stability matter for goal realization (Ajzen, 1991; Conner & Norman, 2022; Gollwitzer, 1999; Sheeran & Webb, 2016). An observed act, in turn, does not establish reception or benefit. Motive and valuation models belong inside a broader translation architecture.

The Prosocial Translation Model

Unit, Scope, and Core Structure

The unit of analysis is a person-in-episode, or a coordinated actor system in an episode when helping is distributed across roles. For person i in episode t , let O denote exposure to an externally assessable opportunity; R , recognition of relevant need; D , acceptance of personal or shared responsibility; S , selection of an acceptable and potentially effective response; A , verified enactment of that response; and B^+ , attainment of a prespecified recipient-benefit criterion. For compact notation, define $G_0 = O$ and $(G_1, G_2, G_3, G_4, G_5) = (R, D, S, A, B^+)$. Define the

complete canonical-path event H as the joint occurrence of all six events. Conditional on covariates X_{it} , the probability is:

$$\Pr(H_{it} = 1 \mid X_{it}) = \Pr(O_{it} = 1 \mid X_{it}) \times \prod_{g=1}^5 \Pr(G_{g,it} = 1 \mid G_{0,it} = \dots = G_{g-1,it} = 1, X_{it}) \quad (2)$$

This is a chain-rule factorization of a joint event. It is not an empirical finding, and it is not generally equal to $\Pr(B^{\wedge} \neq 1)$, because a recipient outcome can improve for reasons unrelated to the focal actor or can be reached through a bypass pathway. The model's falsifiable content lies in the proposed functional distinctions, temporal restrictions, stage-specific predictors and manipulations, permitted bypasses, and predictive comparisons with simpler architectures.

For an episode known to contain an opportunity, define the canonical translation probability as:

$$\tau_{it}(X) = \Pr(G_{1,it} = \dots = G_{5,it} = 1 \mid O_{it} = 1, X_{it}) = \prod_{g=1}^5 p_{g,it} \quad (3)$$

Across a period containing T_i sampled occasions, expected effective-help output can be expressed as the sum of opportunity probabilities multiplied by occasion-specific translation probabilities:

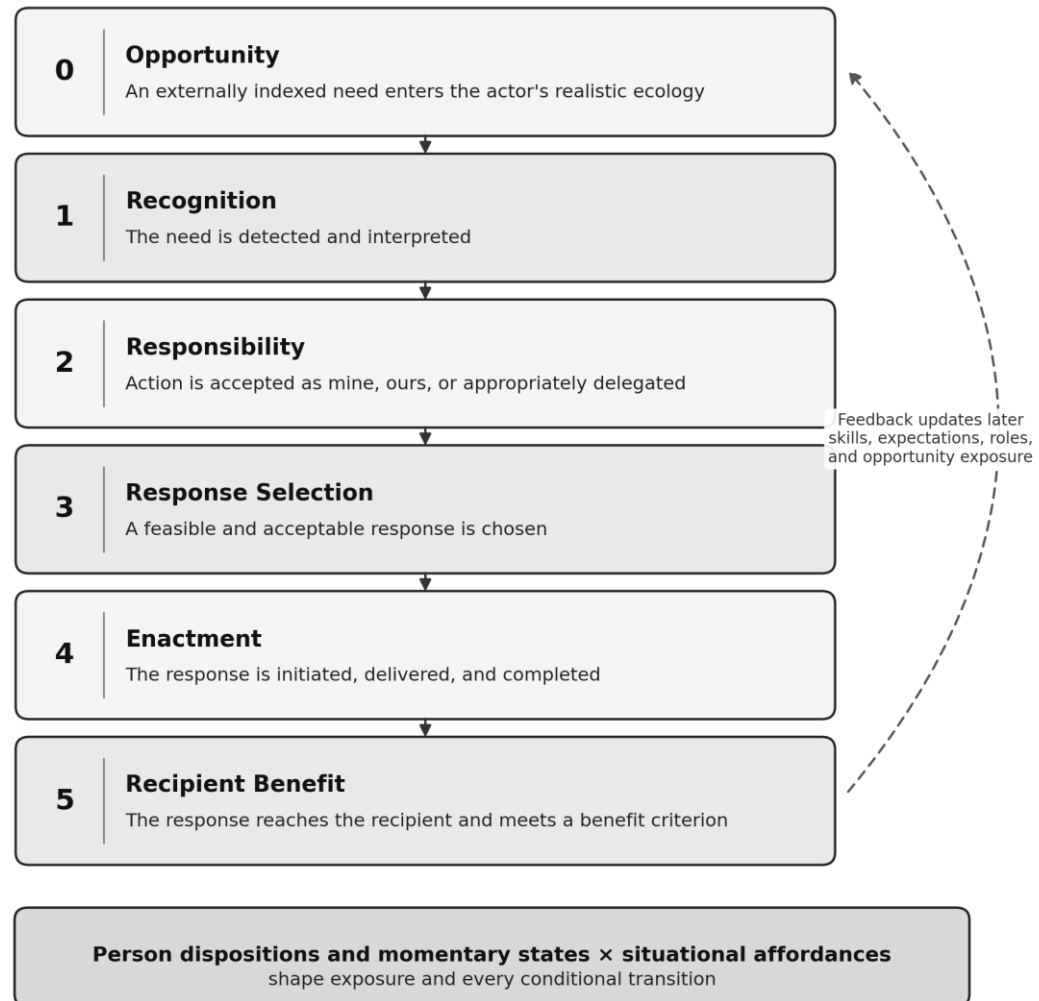
$$E(N_{H,i} \mid X) = \sum_{t=1}^{T_i} \Pr(O_{it} = 1 \mid X_{it}) \tau_{it}(X) \quad (4)$$

This expression separates two sources of output without pretending that every opportunity has equal severity or value. Empirical work should stratify or weight opportunities by type, stakes, and feasible response range when those distinctions matter.

The expression does not claim that helpers consciously complete five serial deliberations. Recognition and responsibility can be rapid, affective, and partly parallel. Trained role holders may act through cached routines. Action can begin before a person can verbally report a choice.

The empirical claim is that the functions are distinguishable and that later canonical-path events ordinarily depend on information or control supplied by earlier ones.

Strictly serial, partially parallel, routine-bypass, and multi-actor versions should be compared rather than assumed. A trained clinician may move from recognized cues directly into a practiced protocol. A household may distribute recognition, authority, and action across different people. A platform can assign a request before any particular user accepts personal responsibility. In such cases, a multistate or competing-path model is preferable to forcing every episode into the canonical product.

Figure 1*The Prosocial Translation Model*

Note. The pathway is a default functional ordering – not every transition is consciously deliberated. Trained routines, parallel processes, and coordinated action can compress or bypass explicit stages. Bypass routes must be specified before testing. A full text description appears in Appendix A.

Figure 1 summarizes the default functional ordering, the person × situation influences that can enter at every transition, and feedback into later episodes. Table 1 states what must be observed to distinguish the transitions.

Table 1*Transitions, Diagnostic Questions, Determinants, and Observable Nonpassage*

Stage	Diagnostic Question	Primary Determinants	Observed Closure or Nonpassage
Opportunity (entry condition)	Was an externally indexed need within realistic cue or action access?	Role and network selection; mobility; resources; need frequency; institutional or platform access.	No externally indexed need, or no plausible cue or action access.
Recognition	Was the need detected and interpreted?	Empathic accuracy; knowledge; attention; cue clarity; ambiguity; competing demands; social signals.	Need present but missed or misclassified; false alarm on a no-need trial.
Responsibility	Was action accepted as mine, ours, or appropriately delegated?	Moral identity; communal orientation; role commitment; bystanders; assignment; group boundary; safety; authority.	Need recognized, but ownership rejected or diffusely assigned.
Response selection	Was a feasible and acceptable response selected?	Other-regarding preference; efficacy beliefs; response knowledge; expected benefit, cost, norms, recipient preference, and alternatives.	Responsibility accepted, but no workable response selected.
Enactment	Was the selected response initiated, delivered, and completed?	Self-regulation; habit; competence; capacity; time; access; friction; reminders; permissions.	Selection or intention without verified delivery or completion.
Recipient benefit	Did the response meet a recipient-relevant benefit criterion?	Skill; calibration; fit; timing; recipient uptake; coordination; comparator; downstream and third-party effects.	Action delivered but rejected, ineffective, harmful, or causally indeterminate.

Note. Opportunity is an entry condition, not a moral or psychological failure. The same person or situation variable may affect more than one transition. Observed improvement after action does not by itself identify a causal benefit.

Transition 0: Opportunity Exposure

No helping episode can occur unless a need enters an actor's realistic perceptual or action ecology. Opportunities differ in frequency, severity, visibility, recipient identity, response options, and cost. People also select and create opportunity structures. A nurse, teacher, parent, volunteer, and remote worker encounter different need distributions even if their conditional willingness to help is identical. Prosocial attributes may promote entry into caregiving roles,

while exhaustion, exclusion, restricted mobility, or institutional barriers can reduce exposure and capacity.

Exposure has two meanings that should not be conflated. Externally assessable exposure is the presence of a need within the actor's plausible perceptual and action range. Selected exposure is the portion of that ecology partly produced by prior roles, relationships, and choices. The first supplies a denominator for recognition. The second is a meaningful long-run outcome. A complete account estimates both.

Transition 1: Recognition of Need

Recognition converts a potentially relevant condition into a represented need. It requires attention, interpretation, and enough social understanding to infer that another's state could be improved. Clear requests make this transition easy. Quiet distress, unfamiliar disability, indirect digital communication, and culturally unfamiliar cues make it difficult.

Person inputs include empathic accuracy, perspective-taking skill, learned scripts, vigilance, and prior knowledge. Situation inputs include cue salience, ambiguity, competing demands, social information, and the recipient's ability or willingness to signal. Empathic concern can motivate attention, but empathy is not identical to accurate detection. People can feel strongly after misreading a cue, or recognize a need without sharing the recipient's emotion. Empathy itself can be treated as a motivated process that varies across situations (Zaki, 2014). Fatigue and cognitive load can also suppress detection among people with strong prosocial values.

Recognition should be measured before responsibility or choice when possible. No-need trials permit signal-detection analyses that separate sensitivity from a general tendency to label

situations as need. Post-action reports are vulnerable to reconstruction because helpers may retrospectively describe needs as clearer than nonhelpers do.

Transition 2: Acceptance of Responsibility

Recognition answers, “Does someone need help?” Responsibility asks, “Is action mine or ours to take?” This transition is shaped by role obligations, number and behavior of potential helpers, relationship closeness, group boundaries, perceived competence, safety, and norms about interference. Accepted responsibility can be individual, shared, or delegated. Alerting a qualified person is not nonhelping when escalation is the appropriate response.

Moral identity, communal orientation, social responsibility norms, and inclusive identification should be most predictive when ownership is ambiguous. Explicit assignment can reduce the variance attributable to these attributes because the situation supplies responsibility. A crowded but unstructured setting can magnify differences in whether responsibility is claimed. Classic diffusion-of-responsibility findings fit here, but the transition also covers workplace handoffs, online reports, family care, and institutional escalation.

Responsibility must not be moralized without regard to position. A person may reasonably decline an unsafe, unauthorized, unwanted, or competence-exceeding intervention while accepting a duty to seek qualified help. Measures should distinguish denial of all responsibility from selection of bounded or indirect responsibility.

Transition 3: Response Selection

After accepting responsibility, the actor must identify and prefer a response. Selection integrates expected recipient benefit, personal and third-party costs, efficacy, available alternatives, emotions, values, norms, and recipient preferences. Experiments on assistance to refugees show that need, personal cost, integration effort, and prosocial orientation jointly shape

decisions (Böhm et al., 2018). The motive families identified by Erlandsson and Dickert (2025) are located most directly here, although emotions and moral principles can also influence attention and responsibility.

The binary selection gate is shorthand for whether the actor selected at least one response that met prespecified feasibility and acceptability criteria. Empirical models should also record response type, including appropriate escalation and no action, because different responses have different completion probabilities and consequences. Multinomial or discrete-choice models are preferable when collapsing responses would hide meaningful heterogeneity.

Naturalistic scenario evidence suggests that people summarize many helping decisions along benefit and cost dimensions while retaining an individual helping bias (Wu et al., 2026). The PTM interprets this conditionally. Expected cost, benefit, and efficacy should be especially predictive of response selection once need and responsibility are represented. They should explain less about needs that were never detected. Implementation costs that emerge only after choice can additionally influence enactment.

Recipient preference constrains acceptability. A response selected only from the helper's perspective can become paternalistic. Consent, expressed goals, cultural competence, proportionality, and alternative helpers should enter selection whenever circumstances permit. Emergencies can restrict consultation, but urgency does not erase the distinction between intended and actual benefit.

Transition 4: Enactment

Selection becomes action only if a response is initiated, delivered, and completed to the degree required. Enactment depends on time, access, procedural knowledge, money, physical

capability, self-regulation, competing obligations, and friction. Small barriers such as an unclear form, a delayed link, or uncertainty about whom to contact can become decisive in combination.

Conscientiousness, self-control, role habits, and implementation skill should be most visible here, particularly for delayed or multistep help. General research on the intention-behavior gap identifies planning, control, and intention stability as important for realization (Conner & Norman, 2022; Gollwitzer, 1999; Sheeran & Webb, 2016). Time pressure can suppress helping even among people for whom moral themes are salient (Darley & Batson, 1973).

Automatic action does not invalidate the transition. Training and defaults can compress selection into a cached policy and reduce enactment friction. Professional protocols, household routines, and platform design can improve helpful output without changing empathic feeling or broad personality. This is important for intervention because environments can improve translation by changing action architecture rather than demanding character change.

Transition 5: Recipient Benefit and Feedback

Enacted help can succeed, fail, or impose costs. Benefit depends on response quality, fit, timing, recipient uptake, coordination, and downstream effects. The actor may lack the information required to judge these outcomes, especially in donations and mediated support. Measurement should seek recipient, administrative, or objective indicators when feasible and preserve uncertainty when they are unavailable.

Outcome feedback updates later episodes. Accurate positive feedback can strengthen recognition scripts, responsibility, response knowledge, and persistence. Failure can improve skill when its cause is legible, or reduce engagement when it is interpreted as futility or rejection. Motivation quality may matter: autonomous help has been associated with more favorable

experiences for both helpers and recipients than controlled help (Weinstein & Ryan, 2010). Praise may consolidate a helping identity but can also redirect attention toward reputation. Development is therefore represented as repeated updating across episodes, not one-time acquisition of a globally prosocial trait.

Transition Profiles and Stage-Specific Models

Repeated episodes permit a profile of conditional transition propensities. For stage g , let $E_{g,it}=1$ indicate that episode t is eligible for the stage under the prespecified path. A cross-classified generalized linear mixed model can be written as:

$$\text{logitPr}(G_{g,it} = 1 \mid E_{g,it} = 1) = \alpha_g + \beta_g^T P_i + \gamma_g^T S_{it} + P_i^T \Theta_g S_{it} + u_{ig} + r_{jg} + c_{kg} \quad (5)$$

Here, P_i is a vector of person characteristics, S_{it} is a vector of episode-level situation characteristics, and Θ_g contains stage-specific person $\times$ situation terms. Random effects can represent the focal person, recipient j , and context k . The person-specific vector $(u_{i1}, \dots, u_{i5})$ is a translation profile. It can contain stable individual differences while allowing their expression to vary across situations, consistent with if-then patterns and distributions of momentary states in personality theory (Fleeson & Jayawickreme, 2015; Mischel & Shoda, 1995). When situation variables vary both within and between people, models should separate within-person deviations from person means instead of interpreting their mixture as one effect.

The coefficients in a gate-conditioned model are conditional associations unless the relevant predictor is randomized or causal assumptions are defended. Later-stage risk sets contain only episodes that passed earlier gates, so naive conditioning can create selection or collider bias. A clean causal next-gate effect randomizes an intervention after eligibility for that

gate is established. When an earlier intervention changes who reaches a later stage, investigators should estimate total intention-to-treat effects on final outcomes or use a prespecified sequential causal method rather than treating post-treatment passers as exchangeable.

Stage eligibility creates structural missingness. If a need was not recognized, response selection is generally undefined rather than zero. Treating every unreached later stage as failure can manufacture correlations and blur mechanisms. Serial models, multistate models, principal-stratification approaches, or carefully defined composite endpoints can be used depending on the causal question. Investigators should specify which transitions are undefined, which are observed, and which bypasses are permissible before analysis.

Accumulation and Intervention Leverage

The canonical translation probability is a product of conditional stage probabilities. Modest losses can therefore accumulate. If the five post-opportunity probabilities are each .80, canonical translation is approximately .33. This arithmetic is an identity after the conditional probabilities are defined, not a proposition that can confirm the theory.

For a canonical translation probability $\tau = \prod_{g \neq k} p_g$, the local derivative with respect to one stage probability is:

$$\frac{\partial \tau}{\partial p_k} = \prod_{g \neq k} p_g = \frac{\tau}{p_k} \quad (6)$$

If an intervention changes only p_k by Δp_k , the corresponding first-order change in translation is $\Delta p_k \prod_{g \neq k} p_g$. This result explains why the smallest probability is not automatically the best intervention target. Practical leverage depends on baseline stage probabilities, attainable change, intervention cost, spillover to other stages, distributional effects, and possible harm. Because real interventions rarely change one stage in isolation, the derivative is a diagnostic quantity, not a causal estimate.

Ten Testable Propositions

Proposition 1: Exposure and Translation Are Distinct Sources of Helpful Output

Associations between person attributes and raw helping counts will differ from associations with helping conditional on independently assessed opportunities. Some attributes will predict exposure through role and relationship selection. Others will predict translation after exposure. If independent opportunity measures add no information and exposure has no stable person or context component, the opportunity distinction loses value.

Proposition 2: Translation Profiles Are Differentiated

Conditional propensities at recognition, responsibility, selection, enactment, and benefit will show partially distinct patterns of individual differences. A single latent prosocial factor may explain shared variance, but stage-specific factors or random effects should improve out-of-sample prediction and calibration. If one propensity predicts every transition and recipient criterion equally well, the profile claim is rejected.

Proposition 3: Person $\times$ Situation Prediction Is Stage-Matched

Person characteristics will have their strongest effects where their functional content matches the transition and the corresponding situational cue. Empathic accuracy should predict recognition when need cues are ambiguous. Moral identity should predict responsibility when ownership is ambiguous. Efficacy beliefs and other-regarding preferences should predict selection under uncertain impact or cost. Conscientious self-regulation should predict enactment under delay or friction. These stage restrictions must improve held-out prediction over unrestricted storytelling after results are known.

Proposition 4: Situational Structure Can Substitute for or Amplify Person Effects

Clear cues, explicit assignment, a credible recommended response, and low-friction action paths should often reduce dependence on the corresponding person attribute. In other settings, structure can amplify an attribute by making its relevant affordance available. Directional interactions must be preregistered. A theory that labels every interaction as post hoc support is not falsifiable.

Proposition 5: Canonical Gating and Held-Out Joint Calibration

Later-stage supports should have limited effects through the canonical path when an earlier required transition is closed. Execution support cannot translate a need that was never represented, and response recommendations cannot operate when the actor has no access to them. Separately estimated stage probabilities should reconstruct held-out canonical-path success with acceptable calibration. Systematic success when a preregistered prerequisite is absent supports an identified bypass, measurement error, or a competing architecture. Routine and multi-actor bypasses must be prespecified and compared directly; consistently superior held-out prediction by a simpler direct model counts against the PTM.

Proposition 6: Cost, Benefit, and Efficacy Are Localized Primarily at Selection

Expected recipient benefit, helper cost, and response efficacy will predict response selection more strongly than recognition. Costs that arise only during implementation will additionally predict enactment. If valuation measures explain missed needs without perceptual pathways, or affect every transition indiscriminately, the proposed localization is wrong.

Proposition 7: Prosocial Ecology Contains Both Selection and Reaction

Person attributes can predict helpful output indirectly by shaping roles, networks, and routines that generate opportunities, and directly by shaping responses within opportunities.

Longitudinal designs should distinguish exposure selection from within-opportunity reaction.

Causal interpretation requires attention to common causes and selection induced by conditioning.

Proposition 8: Learning and Feedback Are Transition-Specific Before They Generalize

Experience should first change the transition for which it supplies information, motivation, or routine. Emotion talk should primarily improve recognition scripts. Explicit responsibility practice should alter ownership. Modeling effective responses should expand selection repertoires. Rehearsal and implementation intentions should improve enactment. Broad transfer across dissimilar transitions and contexts is an empirical outcome, not evidence assumed by the label prosocial development.

Proposition 9: Resources and Concern Are Separable

Material, temporal, cognitive, physical, and institutional resources will predict enactment and benefit even when recognition and responsibility are comparable. Lower helpful output under constraint should not be interpreted as lower concern without evidence from earlier transitions. Observers who infer character directly from unafforded behavior should systematically misclassify some actors.

Proposition 10: Intention, Action, Reception, and Benefit Are Nonidentical Criteria

Stated intention, initiated action, verified completion, recipient acceptance, recipient-reported usefulness, and causal outcome estimates will be correlated but nonidentical. Traits and interventions can predict these criteria differently and can even reverse rank order across them. If the criteria are empirically interchangeable and have the same predictors across contexts, the recipient-centered extension is unnecessary.

Table 2*Discriminating Evidence for the Ten Propositions*

Proposition	Discriminating Evidence	Evidence Against the Claim
1. Exposure and translation	Compare total output, exposure, and within-opportunity translation using independently indexed opportunity sets.	Opportunity measures add no information, and exposure has no stable person or context component within equivalence bounds.
2. Differentiated profiles	Stage-specific random effects or factors improve held-out prediction and calibration beyond one prosocial propensity.	One propensity predicts every transition and recipient criterion as well as the profile model.
3. Stage matching	Preregistered person $\times$ affordance matches improve held-out next-stage prediction on a common marginal scale.	Matched restrictions add no predictive value or effects occur chiefly at nonmatched stages.
4. Structure	Randomized cues, assignments, response support, or friction produce predicted substitution or amplification at the target transition.	Directional interactions fail, occur only through ceiling artifacts, or are rescued post hoc.
5. Gating and calibration	Separately estimated stage probabilities reconstruct held-out canonical success; absent prerequisites block the canonical path.	A simpler direct model calibrates better, or unexplained success is common when preregistered prerequisites are absent.
6. Valuation localization	Expected benefit, cost, and efficacy chiefly predict selection; implementation costs additionally predict enactment.	Valuation measures explain missed needs without perceptual pathways or affect all stages indiscriminately.
7. Selection and reaction	Longitudinal or quasi-experimental designs distinguish exposure selection from response within opportunities.	Selection pathways add no explanatory or predictive value under comparable information.
8. Transition-specific updating	Randomized training or feedback changes the transition it directly informs before broader transfer.	Change is uniform across stages, or one general learning factor predicts improvement as well.
9. Resources and concern	Randomized or credibly exogenous resources change enactment or benefit while earlier concern-related indicators remain distinguishable.	Resource changes affect only concern appraisals or have no execution consequences within equivalence bounds.
10. Nonidentical criteria	Intention, initiation, completion, acceptance, usefulness, and causal outcomes show discriminant validity or preregistered rank reversals.	The criteria are interchangeable and have equivalent predictors across held-out contexts.

Note. Equivalence bounds, effect scales, information sets, permitted bypasses, and calibration thresholds should be preregistered. A failed manipulation does not test stage localization unless it demonstrably changed its target.

Measurement and Analytic Implications

Observe Transitions Close to Their Occurrence

In intervention research, prosocial measurement is dominated by informant reports, self-report questionnaires, and economic games; naturalistic observation is uncommon, and validity evidence is often unreported (Lovett et al., 2026). Broader definitional work likewise documents substantial construct heterogeneity (Binder et al., 2026). Naturalistic paradigms such as disaster-relief registries show how consequential choices can be observed outside the laboratory (Bo O'Connor et al., 2022). No single method can identify every PTM transition. Strong designs triangulate actors, recipients, observers, and behavioral traces.

Recognition can be assessed with time-stamped cue detection, attention measures, independent event coding, immediate interpretation probes, and no-need trials. When both need and no-need trials are available, sensitivity can be separated from a general tendency to report need:

$$d' = \Phi^{-1}[\Pr(R = 1 \mid N = 1)] - \Phi^{-1}[\Pr(R = 1 \mid N = 0)] \quad (7)$$

Responsibility requires judgments of ownership, role, and obligation that are distinct from willingness. Selection requires a feasible option set and measures of expected outcomes, costs, efficacy, and preferences. Enactment requires behavioral initiation and completion, not intention alone. Reception requires evidence that assistance reached the target. Benefit requires recipient-centered or objective evidence and, for causal claims, a credible comparator.

Probing one transition can change the next. Repeated questions about duty can create responsibility; asking for an implementation plan can improve enactment. Researchers can use randomized process-measurement arms, planned-missing designs, delayed probes, unobtrusive traces, or separate samples for process and endpoint measurement. Manipulation checks should

demonstrate that a manipulation changed its target. A failed check is a design failure, not evidence against stage localization.

Model Denominators, Structural Missingness, and Rival Architectures

Repeated episodes are multilevel and often cross-classified: occasions within people, with recipients, requests, roles, and cultures that do not form a simple hierarchy. Gate-specific mixed models can estimate stage intercepts, random slopes, and stage-matched interactions. Multistate or hidden-state models are useful when transitions are partially observed. Bayesian hierarchical models can regularize many trait $\times$ affordance terms and estimate noisy person-specific profiles without treating them as known.

Comparative model testing is essential. At minimum, the PTM should be compared with (a) a single latent prosocial propensity predicting all indicators, (b) a direct endpoint model, (c) a non-gated parallel-process model, and (d) a model that permits routine bypasses. Comparisons must use the same information set. A PTM that receives observed intermediate stages should not be credited with better forecasts than a rival restricted to baseline variables. Joint prediction of the full transition vector, pre-episode final-outcome forecasts, and dynamic next-stage forecasts are distinct tasks. Predictive performance, calibration, complexity-sensitive scoring, preregistered contrasts, and posterior predictive checks are more informative than whether every PTM coefficient reaches significance.

Opportunity-conditioned analyses must state the estimand. A within-opportunity estimand asks whether people differ in translation under comparable exposure. A total-output estimand includes the contexts people select and create. A recipient-outcome estimand asks whether delivered actions improve outcomes relative to an alternative. These are not substitutes. Sensitivity analyses should address missed opportunities, differential reporting, recognition-

dependent recording, attrition, and outcome measurement by actors who know whether they helped.

Establish Measurement Equivalence and Generalizability

Culture, age, role, language, disability, and power can change what counts as need, responsibility, acceptable help, and benefit. Scalar comparisons are not warranted merely because items are translated. Researchers should test measurement invariance or use partial-invariance and alignment approaches, combine locally grounded and cross-context indicators, and examine differential item functioning. Vignettes must be checked for comparable realism and moral stakes. Recipient-benefit criteria must be locally meaningful.

Genetic and developmental studies need the same precision. A heritability estimate for a broad rating cannot identify whether variation lies in exposure, recognition, responsibility, selection, enactment, outcome, or rater perception. Genetically informed longitudinal designs could model transition-specific phenotypes and person-environment transactions. Molecular candidate-gene claims should not substitute for mechanism. Adequately powered genomic work and convergent behavioral evidence are required.

Generalization across people, settings, outcomes, and historical periods is part of the claim, not an automatic property of a significant coefficient. Multi-site replication, deliberately heterogeneous samples, and held-out contexts should be used to test the model's boundaries (Yarkoni, 2022).

A Preregisterable Research Program

The following program is cumulative. Study 1 asks whether the proposed transitions can be measured in daily life. Study 2 identifies stage-specific causal effects under controlled variation. Study 3 tests whether the architecture predicts verified completion and recipient

outcomes in consequential settings. Study 4 tests transition-specific learning and feedback over time. Sample sizes should be chosen by simulation for the smallest confirmatory transition effect or interaction, using plausible base rates, clustering, missingness, and multiplicity.

Table 3

Cumulative Research Program and Decisive Comparisons

Study	Design and Evidence	Primary Tests	Decisive Comparison
1	21-day opportunity-sampled daily helping; external denominators; focal appraisals; peer, recipient, or trace verification.	P1-P3, P7, P9-P10; exposure, transition profiles, intention-completion divergence.	PTM versus one-factor, direct, and parallel models on held-out episodes.
2	Sequentially randomized scenario experiment; no-need trials; cue, assignment, response, and friction interventions.	P3-P6, P9; next-stage effects in preassignment risk sets; final intention-to-treat effects.	Serial, parallel, direct, and routine-bypass models using the same information.
3	Multi-site consequential platform or organizational traces; randomized supports; recipient and administrative outcomes.	P1-P2, P5-P7, P9-P10; delivery, reception, causal outcome tiers, transportability.	Preregistered PTM restrictions versus simpler competitors in a held-out site or period.
4	Longitudinal randomized training and feedback with pretest, posttest, delayed follow-up, and field sampling.	P4, P8, P10; stage-localization vector, near transfer, far transfer, and persistence.	Transition-specific updating versus one general learning factor.

Note. Final sample sizes should be chosen by simulation for the smallest confirmatory transition effect or interaction, accounting for base rates, clustering, missingness, multiplicity, and planned equivalence tests.

Study 1: Opportunity-Sampled Daily Helping

A heterogeneous adult sample would complete a 21-day protocol combining random prompts and event-contingent reports. The primary opportunity denominator would be sampled independently of the focal participant through scheduled context observations, potential-recipient or peer reports, or platform exposure records. A focal participant's own judgment that need was present would count as recognition, not as independent evidence of opportunity. At each sampled occasion, the focal participant would report whether the need was noticed, whether responsibility was accepted, which responses were considered, whether an action was selected, and whether it was initiated and completed. Platform logs or time stamps could verify a subset. Disagreement

and missing events across sources would be modeled rather than resolved automatically in favor of one observer.

Before sampling, participants would complete measures selected for stage-relevant hypotheses, such as empathic accuracy, moral identity, other-regarding preference, efficacy beliefs, conscientious self-regulation, and relevant resources. Episode features would include need clarity, relationship, bystander structure, role assignment, expected cost, expected efficacy, time pressure, and friction.

The primary analysis would compare a multilevel PTM with one-factor, direct endpoint, and parallel-process alternatives. Confirmatory tests would examine opportunity-adjusted effects, differentiated transition profiles, stage-matched interactions, and separation of intention from completion. The profile claim would lose support if transition indicators add no reliable held-out information beyond one prosocial factor or if proposed ordering provides no predictive advantage.

Study 2: Factorial Tests of Stage Localization

A crossed participant $\times$ scenario experiment would use sequential randomization. Need clarity would be assigned before recognition. After recognition is measured, explicit responsibility would be randomized among episodes eligible before that assignment. Response information or efficacy would then be randomized among episodes eligible for selection, followed by enactment friction among episodes eligible before the action prompt. No-need trials would distinguish recognition sensitivity from response bias. Scenarios could use immersive text, audio, or video, with one randomly selected trial becoming a bounded consequential choice involving time, effort, or money when ethically feasible. Behavior would precede manipulation

checks to reduce demand effects. A randomized endpoint-only arm would estimate process-measurement reactivity.

Confirmatory estimands would include next-stage effects in risk sets established before each assignment, total intention-to-treat effects of earlier assignments on final outcomes, spillover to other transitions, and preregistered person $\times$ randomized-affordance interactions. For example, empathic accuracy should be more predictive of recognition when cues are ambiguous; explicit assignment should reduce or redirect the moral-identity slope at responsibility; and a low-friction path should increase completion among episodes eligible before friction is assigned without needing to increase perceived need.

The study would compare serial, partially parallel, and routine-bypass specifications. Strong, replicable effects only on theoretically nonmatched transitions, or better held-out prediction and calibration from a simpler model, would disconfirm the stage-specific PTM.

Study 3: Consequential Traces From Opportunity to Outcome

The strongest test would use a platform or organization that records an independently defined opportunity set and sequential behavior, such as a mutual-aid registry, volunteer matching system, workplace assistance queue, or charitable fulfillment platform. Logs could identify requests shown, opened, claimed, initiated, and completed. These traces are platform-specific proxies rather than direct measures of recognition, responsibility, or choice. Separate appraisal measures on a randomized subset would test their construct meaning. Recipient acceptance, timeliness, resolution, and satisfaction could index distinct outcome tiers.

In a multi-site micro-randomized design, eligible nonurgent or surplus opportunities could vary assignment clarity, recommended responses, reminders, or procedural friction without withholding essential assistance. State questions could appear on a randomized subset of

occasions to estimate measurement reactivity. Where feasible, recipient outcomes would be compared with delayed, usual-response, or alternative-response conditions under ethical safeguards.

The primary analysis would estimate exposure, claim, completion, reception, and benefit separately, with cross-classified effects for helpers, requests, recipients, and contexts. Display or assignment propensities must be recorded or randomized because personalized exposure is not a common opportunity set. The design can reveal action-outcome divergence: a feature may increase claims but reduce completion, or increase completed acts without improving recipient outcomes. A preregistered holdout period or partner site would test transportability. If one endpoint model predicts every transition and recipient outcome as well as the PTM across sites, the added architecture is not justified.

Study 4: Transition-Specific Learning and Feedback

A longitudinal experiment would test whether training and feedback first change the transition they directly inform. Participants in community service, peer support, or another low-risk helping domain would be randomized to one of four active modules: cue-discrimination training, responsibility and escalation scripts, response-repertoire training, or implementation-intention and friction-reduction training. An active comparison module would control for time, attention, and prosocial framing. Assessments would include a common pretest, immediate posttest, delayed follow-up, and field sampling where feasible.

The confirmatory outcome would be a stage-localization vector that compares change at the targeted transition with change at nonmatched transitions on a common marginal-effect or predictive scale. Near and far transfer would be prespecified. Randomized feedback after selected episodes could test dynamic updating without treating endogenous success feedback as

causal. Uniform improvement across every transition, or better prediction by one general learning factor, would count against transition-specific updating.

Constraints on Generality and Ethical Commitments

The PTM is proposed for targeted human helping in which a need, an actor or coordinated actor system, and a potentially consequential response can be identified. It should not be assumed to describe every form of cooperation, norm enforcement, public-goods contribution, or nonhuman prosocial behavior. Much of the supporting personality evidence comes from Western samples, self-reports, vignettes, and economic games. Much developmental evidence relies on parent or teacher reports. Cross-cultural findings show that the meaning and distribution of prosocial action can diverge. Generalization across cultures, ages, languages, roles, and helping forms is a hypothesis requiring direct tests.

The PTM is not a moral ranking system. A person can reasonably decline to intervene because action is unsafe, unwanted, beyond competence, or likely to displace a more responsible actor. Acceptance of responsibility includes appropriate escalation. Benefit incorporates recipient autonomy and third-party harm. The model should not be used to maximize compliance with every request or to infer virtue from sheer output.

Power shapes every transition. Institutions decide which needs are visible, which people are assigned responsibility, which responses receive resources, and whose account determines whether help worked. A transition profile can diagnose structural barriers, but it can also become a tool for blaming people with limited opportunity or capacity. Reporting should separate concern from resources, conditional propensity from exposure, and actor judgment from recipient outcome.

Nor does the model imply that every episode is deliberate or individual. Affect, habit, identity, and learned roles can accelerate or compress transitions. In organizations, one person may recognize a need, another may authorize a response, and a third may enact it. The individual formulation assumes that one focal actor's action does not alter another actor's exposure or response. When substitution, coordination, or spillover is plausible, the team or request must become the unit, or recipient outcome must be modeled as a function of the vector of actors' actions. Random helper effects do not solve interference.

Finally, the ordering and stage boundaries are hypotheses. Some mechanisms span transitions, and some actions fit parallel, reciprocal, or bypass architectures better. The PTM earns its complexity only if it improves explanation, prediction, and intervention targeting over simpler competitors.

Conclusion

The question "What makes people help?" has often been divided into answers about character and answers about context. Both are incomplete because effective help is not a single behavior generated by a single cause. It is the contingent result of encountering a need, recognizing it, accepting responsibility, selecting a workable response, carrying it out, reaching the recipient, and producing a benefit.

The Prosocial Translation Model turns this observation into a falsifiable personality theory. It distinguishes exposure from translation, represents individual differences as differentiated conditional profiles, predicts stage-matched person $\times$ situation effects, identifies permitted bypasses, and refuses to treat intention or action as proof of benefit. It also reframes developmental and biological influence as calibration of specific propensities within social ecologies, not a global contest between genes and environments.

The practical implication follows from the theory. When help fails, asking whether people are prosocial is usually too coarse. The more useful questions are where translation changed, for whom, in which setting, through which path, and according to whose outcome. Those questions can make personality science more precise and helping more effective.

Declarations

Ethics Statement

This article reports no new research involving human participants or animals. Ethics approval and informed consent were not applicable.

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Appendix A

Long Description of Figure 1

Figure 1 presents the Prosocial Translation Model as a six-stage default pathway. The pathway begins when a need enters an actor's realistic behavioral ecology, labeled Opportunity. It proceeds to Recognition, where the need is detected and interpreted; Responsibility, where action is accepted as mine or ours; Response Selection, where a feasible and acceptable response is chosen; Enactment, where the response is initiated and completed; and Recipient Benefit, where the response reaches the recipient and improves a relevant outcome. Arrows connect the stages in sequence to show the canonical path. A band beneath the stages states that person dispositions and momentary states interact with situational affordances to shape exposure and every conditional transition. A feedback arrow returns from recipient benefit toward future episodes, indicating that outcomes can update skills, expectations, roles, and later opportunity exposure. A separate note explains that the sequence is a default functional ordering rather than a claim that every transition is consciously deliberated. Trained routines, parallel processes, and coordinated action can compress or bypass explicit stages and should be modeled as rival pathways.