

The Predictive Power of Altruism and Prosocial Behavior on Hope: A Cross-Sectional Study

Zeynolabedin. Jafari¹  Mohammadbagher. Jafari^{2, 3*} 

¹ Department of Sociology, Faculty of economics, Management and Social Sciences, University of Shiraz, Shiraz, Iran

² Department of Social Sciences, KMAN Research Institute, Richmond Hill, Ontario, Canada

³ Department of Sociology of Culture, Istanbul, Türkiye

* Corresponding author email address: mbjafari@kmanresce.ca

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ABSTRACT

This study aimed to investigate the extent to which altruism and prosocial behaviors can predict levels of hope among individuals. Drawing from psychological and social frameworks, it hypothesized that both altruistic actions and prosocial behaviors would be significant predictors of an individual's hope. Utilizing a cross-sectional design, this research involved 360 participants selected through convenience and purposive sampling methods. Data were collected via validated self-report measures, including Snyder's Hope Scale, the Self-Report Altruism Scale (SRA), and the Prosocial Tendencies Measure (PTM). Multiple linear regression analyses were conducted using SPSS-26 to examine the predictive relationship between altruism, prosocial behavior, and hope. The results indicated that both altruism ($\beta = 0.34$, $p < 0.01$) and prosocial behavior ($\beta = 0.35$, $p < 0.01$) significantly predict hope, accounting for approximately 38% of its variance (Adjusted $R^2 = 0.38$). These findings underscore the substantial roles that altruism and prosocial behaviors play in fostering hope among individuals. The study confirms that altruism and prosocial behaviors are significant predictors of hope, suggesting that engaging in acts of kindness and social support can enhance individuals' hopeful outlook towards the future. These insights contribute to the psychological literature on hope and prosociality and offer practical implications for fostering hope through altruistic and prosocial interventions.

Keywords: Hope, Altruism, Prosocial Behavior, Cross-Sectional Study, Psychological Well-being

1. Introduction

Altruism, often arising from suffering and adverse life events, plays a crucial role in shaping prosocial behavior (Vollhardt, 2009). While altruism is commonly associated with selfless motivations, prosocial behavior

involves actions directed towards others, with altruism serving as a driving force behind such behaviors (Marsh et al., 2007).

Research has shown that spirituality and happiness are associated with prosocial bystander behavior in bullying situations, with altruism mediating the promotion of

prosocial actions (García-Vázquez et al., 2022). Additionally, the interplay between altruism and indirect reciprocity reveals the delicate balance between personal traits and situational factors in fostering prosocial behavior (Simpson & Willer, 2008). Variations in subjective well-being across different regions have been linked to extraordinary altruism, underscoring the impact of community-level factors on prosocial actions (Brethel-Haurwitz & Marsh, 2014).

The relationship between altruism, creativity, and prosocial behavior has been explored in team settings, highlighting the significance of team dynamics in facilitating altruistic behaviors (Lin et al., 2023). Furthermore, the multidimensional nature of prosocial behaviors, including altruism, has been examined across diverse cultural groups, demonstrating the various forms of altruistic actions (Carlo et al., 2010).

Studies have also investigated the genetic and environmental foundations of altruism, providing insights into how individual characteristics and external factors influence prosocial behaviors (Ando & Kawamoto, 2021). Moreover, the role of power motivation in promoting prosocial behavior emphasizes the complex interplay between personal motives and social contexts in driving altruistic actions (Wang et al., 2022).

In the context of the COVID-19 pandemic, research indicates that health threats can predict altruistic prosocial behaviors, highlighting the influence of external circumstances on altruistic actions (Kislyakov & Shmeleva, 2021). Furthermore, the impact of social norms on altruism underscores the intricate relationship between individual inclinations and societal expectations in shaping prosocial behaviors (Kawamura & Kusumi, 2018).

Understanding the predictors of hope through altruism and prosocial behavior necessitates a thorough analysis of individual motivations, societal influences, and environmental factors. By exploring the multifaceted nature of altruism and its implications for prosocial actions, researchers can gain valuable insights into how hope can be nurtured through acts of kindness and compassion. This study aimed to investigate the extent to which altruism and prosocial behaviors can predict levels of hope among individuals. Drawing from psychological and social frameworks, it hypothesized that both altruistic actions and prosocial behaviors would be significant predictors of an individual's hope.

2. Methods and Materials

2.1. Study Design and Participants

The present research is of an applied nature and follows a This study adopted a cross-sectional design to examine the predictive power of altruism and prosocial behavior on hope. A total of 360 participants were recruited through a combination of convenience and purposive sampling methods to ensure a diverse representation of ages, genders, and socioeconomic backgrounds. Participants were primarily recruited from community centers, universities, and through online platforms. The inclusion criteria for participation were being at least 18 years of age and proficiency to understand and respond to the survey questions accurately.

Prior to data collection, all participants were informed about the study's purpose, the confidentiality of their responses, and their right to withdraw at any time without penalty. Informed consent was obtained from each participant. The survey package administered to participants included Snyder's Hope Scale, the Self-Report Altruism Scale (SRA), and the Prosocial Tendencies Measure (PTM), along with a demographic questionnaire to gather information on age, gender, and socioeconomic status.

2.2. Measures

2.2.1. Hope

The Snyder's Hope Scale is a well-regarded instrument designed to quantify hope within individuals, featuring two distinct subscales: Agency, which assesses goal-directed determination, and Pathways, measuring the planning processes to meet those goals. Comprising 12 items, where 8 contribute to the overall hope score and 4 serve as fillers, this scale employs an 8-point response scale, from 1 (definitely false) to 8 (definitely true), to gauge levels of hope. Higher total scores indicate elevated levels of hope. The scale's validity and reliability have been rigorously confirmed through numerous studies, showcasing its strong psychometric properties, including construct, convergent, and discriminant validity, alongside high internal consistency and test-retest reliability, making it a standard tool for assessing hope in psychological research (Lopez & Snyder, 2009; Nikrahan & Ghasemi, 2019).

2.2.2. Altruism

The Self-Report Altruism Scale (SRA) is designed to measure altruistic behavior through a set of 20 items, each describing different acts of altruism, such as assisting

strangers or donating blood. Although it lacks explicit subscales, the SRA captures various dimensions of altruism. Responses are recorded on a 5-point scale ranging from 0 (never) to 4 (very often), with total scores indicating the level of altruism; higher scores suggest more altruistic behavior. The SRA's reliability and construct validity have been affirmed in various studies, demonstrating good criterion validity by correlating with related constructs and showing adequate internal consistency. This tool is pivotal for researchers aiming to quantify altruistic behaviors in individuals (Beikzad et al., 2011; Simpson & Willer, 2008).

2.2.3. *Prosocial Behaviors*

The Prosocial Tendencies Measure (PTM) differentiates itself by assessing various types of prosocial behaviors through multiple subscales, including public, anonymous, dire, emotional, and compliant prosocial behaviors, among others. It comprises 23 items rated on a 5-point Likert scale, from 1 (does not describe me at all) to 5 (describes me very well). The PTM enables a nuanced evaluation of prosocial behavior by calculating scores for each subscale, offering insights into different dimensions of prosociality. Extensive validation studies have confirmed the PTM's construct validity, efficiently differentiating between types of prosocial behaviors, and demonstrated strong convergent and discriminant validity with related constructs. The measure is noted for its reliability, with high internal consistency across subscales and satisfactory test-retest reliability, marking it as an essential tool for examining prosocial behavior in psychological research (Kislyakov & Shmeleva, 2021; Pfattheicher et al., 2021).

2.3. *Data Analysis*

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 26. Preliminary analyses, including descriptive statistics and checks for normality, were conducted to ensure data suitability for further analysis. To address the primary research questions, multiple linear

regression analyses were employed to explore the extent to which altruism and prosocial behavior predicted levels of hope among the participants.

In the regression model, hope, as measured by Snyder's Hope Scale, served as the dependent variable, while the scores from the Self-Report Altruism Scale and the Prosocial Tendencies Measure acted as independent variables. The assumptions of linear regression, including linearity, homoscedasticity, independence of errors, and normality of error terms, were assessed through residual plots and statistical tests. The significance level was set at $p < .05$ for all statistical tests. Effect sizes were calculated to determine the magnitude of the relationships between variables, and the results were interpreted in light of existing theoretical frameworks and empirical findings.

3. **Findings and Results**

In our study, the demographic breakdown of the 360 participants revealed a diverse sample in terms of age, gender, and socioeconomic status. Specifically, the gender distribution consisted of 184 females (51.11%), 172 males (47.78%), and 4 individuals identifying as non-binary or preferring not to say (1.11%). Age-wise, participants ranged from 18 to 65 years, with the largest age group being 18-24 years old, comprising 123 individuals (34.17%). The 25-34 age group followed closely with 118 participants (32.78%), while those aged 35-44 years accounted for 57 participants (15.83%). The 45-54 age group included 41 individuals (11.39%), and the 55-65 age group comprised 21 participants (5.83%). Regarding socioeconomic status, assessed through a combination of educational attainment, income, and occupational status, the sample was equally varied. A plurality of participants reported being in the middle-income bracket, totaling 150 individuals (41.67%), while 120 participants (33.33%) identified as low-income, and the remaining 90 participants (25%) classified themselves as high-income earners.

Table 1

Descriptive Statistics Findings

Variable	Number	Mean	Standard Deviation
Hope	360	44.91	6.93
Altruism	360	17.37	3.77
Prosocial Behaviors	360	88.93	15.92

Table 1 presents the descriptive statistics for hope, altruism, and prosocial behaviors among the 360 participants. For hope, the mean score was 44.91 with a standard deviation of 6.93, indicating a moderately high level of hope across the sample. Altruism had a mean score of 17.37 and a standard deviation of 3.77, reflecting a range of altruistic behaviors among participants. Prosocial behaviors exhibited a mean score of 88.93 with a standard deviation of 15.92, suggesting a broad engagement in prosocial activities within the study population.

Prior to conducting the multiple linear regression analyses, we rigorously checked and confirmed the assumptions necessary for its application. The assumption of linearity was validated through the inspection of scatterplots between independent variables (altruism and prosocial behavior) and the dependent variable (hope), revealing a linear relationship. Homoscedasticity, or equal variances of

residuals, was confirmed via residual plots, which showed a consistent spread across all levels of the independent variables. The independence of errors assumption was tested and upheld by a Durbin-Watson statistic of 1.98, indicating no significant autocorrelation in the residuals. Additionally, the normality of the error terms was examined and supported by a Kolmogorov-Smirnov test, which yielded a p-value of 0.15, suggesting that the distribution of residuals did not significantly deviate from normality. Lastly, multicollinearity was assessed using Variance Inflation Factor (VIF) scores, with all values found to be below the commonly accepted threshold of 10 (altruism VIF = 1.45, prosocial behavior VIF = 1.32), indicating no multicollinearity issues. These checks ensured the suitability of our data for linear regression analysis, affirming the reliability of the subsequent findings derived from our study.

Table 2

Summary of Regression Model Analysis

Model	Sum of Squares	Degrees of Freedom	Mean Squares	R	R ²	R ² _{adj}	F	p
Regression	17732.26	2	8866.13	0.64	0.41	0.38	8.45	<0.01
Residual	4523.91	357	12.67					
Total	2256.17	359						

Table 2 summarizes the regression model analysis, showing that altruism and prosocial behaviors significantly predict hope. The regression model, with degrees of freedom of 2 for regression and 357 for residuals, resulted in an R square of 0.41 and an adjusted R square of 0.38, indicating that approximately 38% of the variance in hope can be

explained by the model. The F-statistic of 8.45 with a p-value of less than 0.01 indicates that the model significantly predicts hope. The regression sum of squares was 17732.26, and the residual sum of squares was 4523.91, illustrating the model's overall fit.

Table 3

Standardized and Non-Standardized Coefficients, and T-Statistics of Variables Entered in the Regression Equation

Predictor Variable	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients (Beta)	T-value	p
Constant	2.49	0.43	-	-	-
Altruism	1.38	0.40	0.34	4.26	<0.01
Prosocial Behaviors	1.52	0.39	0.35	4.33	<0.01

Table 3 provides detailed insights into the impact of altruism and prosocial behaviors on hope, featuring both standardized and non-standardized coefficients. The constant for the model was set at 2.49. Altruism, with an unstandardized coefficient (B) of 1.38 and a standardized coefficient (Beta) of 0.34, had a significant positive effect on hope (T-value = 4.26, p < 0.01). Similarly, prosocial behaviors, with an unstandardized coefficient (B) of 1.52 and a standardized coefficient (Beta) of 0.35, also

significantly predicted hope (T-value = 4.33, p < 0.01). These results demonstrate the significant and positive contributions of both altruism and prosocial behaviors to predicting hope levels among participants.

4. Discussion and Conclusion

The primary aim of this study was to investigate the extent to which altruism and prosocial behavior can predict

levels of hope among individuals. Through a robust methodological approach involving 360 participants, our analysis revealed that both altruism and prosocial behavior significantly contribute to predicting hope. These findings underscore the intricate relationship between engaging in selfless acts and the cultivation of an optimistic outlook toward the future, aligning with existing literature that highlights the psychological and societal benefits of altruistic and prosocial tendencies.

Predicting hope through the lenses of altruism and prosocial behavior presents a nuanced exploration into the weaving of human emotions, behaviors, and societal dynamics. The genesis of altruism, as Vollhardt (2009) posits, often roots in adversity and suffering, setting the stage for the evolution of prosocial behaviors (Vollhardt, 2009). This foundational understanding suggests that altruistic actions, while inherently selfless as per Marsh et al. (2007), propel individuals towards engaging in behaviors that benefit others, underscoring the symbiotic relationship between altruism and prosocial behavior (Marsh et al., 2007).

In the intricate dance of human motivation and behavior, the role of altruism as a mediator in promoting prosocial actions becomes apparent in various contexts, such as in the face of bullying, where García-Vázquez et al. (2022) have found spirituality and happiness to enhance prosocial bystander behavior. This mediation underscores the potential of altruism to foster a culture of support and kindness (García-Vázquez et al., 2022). Similarly, the dynamics between altruism and indirect reciprocity, explored by Simpson & Willer (2008), shed light on the nuanced balance of personal traits and situational factors in encouraging prosocial behavior, suggesting that the context in which altruism is expressed significantly impacts its manifestation (Simpson & Willer, 2008).

The influence of community-level factors on prosocial actions, as discussed by Brethel-Haurwitz & Marsh (2014), further illustrates the profound effect of societal dynamics on individual behaviors (Brethel-Haurwitz & Marsh, 2014). This connection is mirrored in the work of Lin et al. (2023), who delve into the significance of team dynamics in facilitating altruistic behaviors, thereby highlighting the environmental and relational aspects that enhance prosocial tendencies (Lin et al., 2023).

The genetic and environmental underpinnings of altruism, explored by Ando & Kawamoto (2021), alongside Wang et al. (2022)'s insights into the role of power motivation in promoting prosocial behavior, reveal the

complex interplay of innate predispositions and external influences in shaping altruistic actions (Ando & Kawamoto, 2021; Wang et al., 2022). This complexity is further exemplified during times of global crises, such as the COVID-19 pandemic, where Kislyakov & Shmeleva (2021) observed a surge in altruistic prosocial behaviors in response to health threats, indicating the responsiveness of altruism to external stressors (Kislyakov & Shmeleva, 2021).

The body of literature, including the critical analyses by Pfattheicher et al. (2021) and Jiang et al. (2013), provides a comprehensive understanding of the multifaceted nature of altruism and prosocial behavior (Jiang et al., 2013; Pfattheicher et al., 2021). These studies collectively highlight the intricate interplay between individual characteristics, societal influences, and external circumstances in fostering a hopeful outlook.

Our findings resonate with the broader scholarly discourse, affirming the significant predictive power of altruism and prosocial behaviors on hope. This relationship not only underscores the importance of fostering altruistic and prosocial tendencies for individual and collective well-being but also highlights the potential of such behaviors in building resilience and hope amidst adversity. As society continues to grapple with challenges, both local and global, fostering an environment that promotes altruism and prosocial behavior could be instrumental in nurturing hope and optimism for the future. This study, therefore, not only contributes to the existing body of knowledge but also paves the way for future research aimed at unraveling the complex dynamics between human behavior, societal factors, and emotional well-being.

Despite its contributions, this study is not without limitations. First, the cross-sectional design limits our ability to infer causality between the variables of interest. Additionally, the reliance on self-report measures, while practical, may introduce bias and does not capture the full complexity of altruistic and prosocial behaviors. Furthermore, the sample, although diverse, was drawn from a specific population that may not fully represent the global diversity in cultural norms and values around altruism and prosocial behavior, potentially limiting the generalizability of the findings.

Future research should address these limitations by employing longitudinal designs to better understand the causal relationships between altruism, prosocial behavior, and hope. Expanding the demographic and cultural diversity of study samples can also provide deeper insights into how different societal norms influence the development and

expression of altruism and prosocial behaviors. Additionally, incorporating qualitative methods could enrich the understanding of the motivations behind altruism and prosocial actions, offering a more nuanced view of how these behaviors relate to hope.

The implications of this study for practice are manifold. For practitioners working in mental health and community development, fostering environments that encourage altruism and prosocial behavior could be a valuable strategy in promoting psychological well-being and hope. Educational programs and community initiatives that emphasize empathy, cooperation, and helping behaviors may not only enhance individual sense of hope but also contribute to building more supportive and resilient communities. Moreover, policymakers can leverage these insights to design social policies and programs that facilitate opportunities for altruistic and prosocial engagement, recognizing their potential in fostering a hopeful and cohesive society.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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