# The Mechanism Underlying Empathy-Related Helping Behavior: An Investigation of Empathy-Attitude-Action Model

Wan-Ting Liao, Angela K. Tzeng

*Abstract*—Empathy has been an important issue in psychology, education, as well as cognitive neuroscience. Empathy has two major components: cognitive and emotional. Cognitive component refers to the ability to understand others' perspectives, thoughts, and actions, whereas emotional component refers to understand how others feel. Empathy can be induced, attitude can then be changed, and with enough attitude change, helping behavior can occur. This finding leads us to two questions: is attitude change really necessary for prosocial behavior? And, what roles cognitive and affective empathy play? For the second question, participants with different psychopathic personality (PP) traits are critical because high PP people were found to suffer only affective empathy deficit. Their cognitive empathy shows no significant difference from the control group. 132 college students voluntarily participated in the current three-stage study. Stage 1 was to collect basic information including Interpersonal Reactivity Index (IRI), Psychopathic Personality Inventory-Revised (PPI-R), Attitude Scale, Visual Analogue Scale (VAS), and demographic data. Stage two was for empathy induction with three controversial scenarios, namely domestic violence, depression with a suicide attempt, and an ex-offender. Participants read all three stories and then rewrite the stories by one of two perspectives (empathic vs. objective). They would then complete the VAS and Attitude Scale one more time for their post-attitude and emotional status. Three IVs were introduced for data analysis: PP (High vs. Low), Responsibility (whether or not the character is responsible for what happened), and Perspective-taking (Empathic vs. Objective). Stage 3 was for the action. Participants were instructed to freely use the 17 tokens they received as donations. They were debriefed and interviewed at the end of the experiment. The major findings were people with higher empathy tend to take more action in helping. Attitude change is not necessary for prosocial behavior. The controversy of the scenarios and how familiar participants are towards target groups play very important roles. Finally, people with high PP tend to show more public prosocial behavior due to their affective empathy deficit. Pre-existing value and belief as well as recent dramatic social events seem to have a big impact and possibly reduce the effect of the independent variables (IV) in our paradigm.

*Keywords*—Affective empathy, attitude, cognitive empathy, prosocial behavior, psychopathic traits.

## I. INTRODUCTION

THE purpose of the current study is to investigate the underlying mechanism of how empathy influences people's prosocial behavior.

One of the reasons is that we see others are in need, in trouble, or they are suffering from all kinds of problems including injustice (e.g., child abuse) and natural disasters (e.g., victims of earthquakes). We understand how hard those situations are and would like to do something to make things better for others and society. Of course, understanding others' situations does not always end up helping behavior, but it is indeed an important reason.

Empathy can be defined as "knowing how others feel". By knowing, it refers to either cognitively understands how others think or emotionally get how others feel. Nonetheless, empathy is not the only reason for helping out. Helping behavior could also be due to more external reasons such as social desirability, social success, or personal fame.

To examine the mechanism of how empathy affects helping behavior, in Empathy-Attitude-Action Model [3] Batson proposed attitude change is the key. This brings up a question for the current study: Is attitude change necessary for helping behavior? Besides, what roles cognitive and emotional empathic components play in helping behavior?

## II. EMPATHY

Empathy is an important drive for altruistic and prosocial behavior [5]. Empathy is defined as i) one is in an affective state; ii) this state is isomorphic to another person's affective state; iii) this state is elicited by the observation or imagination of another person's affective state; iv) one knows that the other person is the source of one's affective state." [11]

Many other concepts are related to empathy, such as mimicry [20], emotional contagion [21], cognitive perspective-taking, and sympathy. These concepts are differentiated from empathy because the affective state in empathy ought to be induced by others [11].

In the literature, empathy is generally investigated by two approaches. The first approach focuses on cognitive role-taking [12] by evaluating one's feelings and thoughts and comparing it with what of others. Participants are asked to imagine being in others' situations to understand and anticipate their thoughts, feeling, and action. The second approach takes empathy as an affective reaction to others' affective experiences. The main difference between these two approaches as the first recognizes others' feeling, yet the second shares the feeling [30].

Literature suggests empathy is composed of cognitive and affective components. Affective empathy refers to a suitable emotional reaction to others' feelings [16]. Affective empathy plays an important role in primitive altruistic behavior. On the other hand, cognitive empathy is to recognize others' emotional states without emotional contagion. It allows us to have an

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insight into others' mental states. It is valuable in consulting and legal professions; nonetheless, it could also be the bases of manipulative personality [25].

Interpersonal Reactivity Index (IRI) is one of the most common measurements of empathy proposed by based on a multi-dimensional model [10]. There are four subscales in IRI: Perspective-Taking, Fantasy, Empathic Concern, and Personal Distress. Perspective-taking refers to the ability to automatically taking others' points of view and to predict how others will behave. Fantasy is to convert oneself into a character in books or movies to imagine their feeling and action. Empathic concern is about sympathy and caring for others' misfortune. Personal distress measures anxiety in interpersonal situations. Perspective-taking is related to cognitive empathy while the other three are related to both cognitive and emotional empathy.

Scenario-induced paradigm is frequently used in empathy literature when a study is aimed for behavioral and biological data. The general procedure is to first present the scenarios to the participants, then record their responses for testing the effect of induction. A second-order false belief paradigm was used to measure cognitive and/or affective perspective taking in three groups of children, namely CD-high-CU (Conduct-Disorder elevated on Callous-Unemotional traits), CD-low-CU, and Control [2]. The result showed a cognitive perspective-taking deficit only in the CD-low-CU group. On the other hand, the affective-perspective-taking deficit was found in both CD-high-CU and CD-low-CU groups. Other study focuses on the relationship between affective empathy, aggression, and helping behaviors [26]. Participants were induced empathically to see whether or not this manipulation would affect their decision on the magnitude of shock they would give to an accomplice of the experimenter. They were also interested in whether direct contact would affect participants' behavior or not. The answers to both questions are "yes".

In the current study, both IRI and a scenario-induced paradigm are used.

## III. Empathy, Attitude, and Helping Behavior

Generally speaking, people with higher empathy tend to produce more helping behavior. Reference [13] invested the relationship between empathy and helping behavior by self-report, biological responses (heart rhythm), and facial expression. After viewing videos of people in trouble or need help, participants needed to decide would they help out or not. Both facial expression and the result of self-report are predictive for adults; whereas biological response and facial expression are predictive for children.

Researchers are also interested in the impact of personality [17]. Participants were assessed with the Big Five Personality Scale. The result shows that Agreeableness is positively related to empathy. Also, people with higher Agreeableness tend to produce more helping behavior under various circumstances.

The effect of attitude is also a focus in the literature of helping behavior. Reference [4] proposed the Empathy-Attitude Model using three types of stigmatized target groups: young women with AIDS, homeless men, and convicted murderers. They concluded that attitude change is critical. They also proposed a three-stage procedure for attitude change to occur. In stage one, participants were led to empathize with stereotyped people, to imagine their situation, to take their perspectives. In stage two, induced empathy can increase the concern of the welfare toward the stigmatized groups. Finally, in stage three, participants' attitudes will be changed toward more positive and caring. They suggested this procedure worked better and the attitude change would last longer than using objective reasoning.

Attitude not only highly relates to empathy but also plays an important role in the action of helping. The relationship between attitude and action was established in the Theory of Planned Behavior [1]. In this model, three mechanisms can affect the decision of taking action. The first one is the attitude toward certain behavior after evaluating the consequences. The second is the subjective norm that takes the perceived social pressure into account. The third is the perceived behavioral control, meaning the evaluation of how difficult it is to execute a certain action. Batson modified his previous model [4] into the Empathy-Attitude-Action Model [3] which emphasized attitude change is a key for prosocial behavior.

Prosocial behavior was categorized into four types using adolescents as the participants [7]. They are altruistic prosocial behavior, compliant prosocial behavior, emotional prosocial behavior, and public prosocial behavior. Altruistic prosocial behavior emphasizes the caring of others' needs and welfare and it is usually related to sympathy and internal norm, morality, and self-concept [6], [15]. Compliant prosocial behavior is the reaction to others' verbal or nonverbal request [13]. Emotional prosocial behavior is defined as helping others under high emotional arousal situations. And, public prosocial behavior refers to the helping behavior with others' presence.

A major aspect of public prosocial behavior is that this type of helping behavior is a tool to gain others' respect, to be recognized, and to increase one's self-value [28]. Contrast to anonymous prosocial behaviors, public prosocial behavior is positively related to social desirability and negatively related to moral reasoning.

In sum, the literature suggests people with higher empathy tend to help more. Higher empathy would positively change participants' attitudes toward target groups. Finally, attitude change is one of the key factors for people to take a prosocial action. This leads us to the next question: What roles do cognitive and affective empathy play?

## IV. Psychopathy

It seems participants with PP traits are suitable to tear apart the role of cognitive and affective empathy play (as discussed below).

Psychopathy is a personality disorder. Reference [29] reviewed the definition of psychopathy and concluded early definition of psychopathy is highly related to antisocial behavior even criminality and therefore its complexity is overlooked. A "clinical profile" was summarized to describe 16 behavioral characteristics to describe psychopathy:

(1) superficial charm and good intelligence, (2) absence of delusions and other signs of irrational thinking, (3) absence of nervousness or psychoneurotic manifestations, (4) unreliability, (5) untruthfulness and insincerity, (6) lack of remorse and shame, (7) inadequately motivated antisocial behavior, (8) poor judgment and failure to learn by experience, (9) pathologic egocentricity and incapacity for love, (10) general poverty in major affective reactions, (11) specific loss of insight, (12) unresponsiveness in general interpersonal relations, (13) fantastic and uninviting behavior with drink and sometimes without, (14) suicide threats rarely carried out, (15) sex life impersonal, trivial, and poorly integrated, and (16) failure to follow any life plan [9].

The Triarchic Model was proposed to reconcile contrasting conceptions of psychopathy in the literature. The model conceives of psychopathy as three distinct but interrelated phenotypic dispositions: disinhibition, boldness, and meanness [27].

Recent studies emphasize on two distinct components of empathy. Affective and cognitive empathy was studied with the "dark triad personality" model [31]. The results suggested that people with a primary and secondary psychopathic personality only show a deficit in their affective empathy. No difference in their cognitive empathy when compared with the control group. Due to their affective and emotional deficits, people with high PP traits could have difficulty correctly describe others' emotions or carry out appropriate emotional responses. They also have a lower biological response in general. On the contrary, their cognitive empathy shows no difference from the control meaning they have no problem to "understand" the reasons in others' troubles.

Due to the lower empathic response and lack of emotional reaction, people with high psychopathic traits tend to produce less helping behavior [23]. Besides, when they do help out, more public prosocial behaviors are observed [14], [24], [32].

One common tool for psychopathy personality assessment is Psychopathy Checklist-Revised, (PCL-R) [18], [19]. It is required to be administered by professionals such as clinical psychologists and it is usually used on clinical or criminal related cases. Alternatively, Psychopathic Personality Inventory-Revised (PPI-R) is used in the non-clinical and non-criminal population. There are 154 items constructed into three higher-order factors (Self-Centered Impulsivity, Fearless Dominance, and Coldheartedness) and eight factors (Machiavellian Egocentricity (ME), Social Potency (SOP), Coldheartedness (C), Carefree Nonplanfulness (CN), Fearlessness (F), Blame Externalization (BE), Impulsive Nonconformity (IN), and Stress Immunity (STI)). The current study will use PPI-R.

## V. AIMS AND HYPOTHESES

The main purpose of the current study is to investigate the relationship between empathy and prosocial behavior and its underlying mechanism. We asked two questions: (1) What roles do affective and cognitive empathy play? (2) Is attitude change necessary for prosocial behavior [3]?

The validity of the current study lies upon the success of empathy induction. There are three independent variables in the experiment. The dependent variable was their donation at the final stage of the experiment. The first IV was participants' PP traits. The second IV was Responsibility. There are two versions of each of the three scenarios. In the Responsible version, the main character was at least partly responsible for what happened. Immediately after reading each scenario, participants were asked to rewrite the story with no less than 100 words. The third IV was the perspective of writing. In Empathetic writing, "I" was set as the first word and encouraged to use more often in one's writing. In Objective writing, participants started their writing with the character's name. Literature showed in traumatic writing, the pronoun "I" induces more emotional reaction, produced more details; whereas the pronoun "they" creates a larger psychological distance [8], [22]. The perspective of writings is designed to increase the difference in empathy induction. The following are hypotheses in the current study:

- Ho 1: High PP group shows lower affective empathy, but no difference in cognitive empathy than Low PP group.
- Ho 2: After induction (viewing scenarios), Low PP group will yield higher empathy and therefore donate more tokens.
- Ho 3: Attitude change is necessary for the action of prosocial behavior.
- Ho 4: High PP group shows more public prosocial behavior.

## VI. METHODS

### A. Participants

114 college students (26 males, 88 females, average age of 20.4) from CYCU volunteered in the study. They also received class credits as rewards.

After PPI-R assessment, the top and bottom 25% of the participants were assigned as High PP group (N = 34 for correlation analysis, N = 25 for donation analysis) and Low PP group (N = 36 for correlation analysis, N = 30 for donation analysis). The criterion for High and Low PP groups was PPI-R > 301 and PPI-R < 263, respectively. Participants were invited and reminded to come back at a different time in 2 weeks. The number of participants was different in three stages due to no shows.

### B. Measures

(1) *Attitude scale*: a seven-item 9-point Likert scale of attitude towards the three target groups (see Appendix).
(2) *PPI-R* to measure psychopathic traits.
(3) *IRI* has four 4-point subscales. There are seven items in each of the four empathy subscales: Perspective-Taking, Fantasy, Empathic Concern, and Personal Distress.
(4) *VAS*: A 9-point scale to measure emotional response after reading the scenarios.

### C. Scenarios

Three scenarios were composed as the "real stories" from the target groups, namely domestic violence, depression with a

suicide attempt, and an ex-offender. There are two versions for each scenario. One is Responsible the other is Non-responsible.

### D. Procedure

Stage 1: Collecting basic personal information (e.g., age, gender, related medical history, major), the attitude toward target groups by Attitude Scale (pre-attitude), IRI, PPI-R.

Stage 2: Empathy induction. One week after stage 1, participants returned to the experiment online. They were to read three scenarios (either Responsible or Non-responsible version), followed by perspective writing of the story (Empathetic or Objective perspectives), then take the Attitude Scale (post-attitude) and VAS. Three scenarios were presented in counterbalanced order.

Stage 3: Participants asked to freely donate the 17 tokens they receive for all three groups. They were reminded each group is independent. They could donate any amount they thought fit and did not have to use up the tokens. Participants were also asked whether or not they would like their name to go public (announce on the website).

There was a debrief and post-experimental interview at the end.

### VII. RESULTS AND DISCUSSION

#### A. Psychopathy and Empathy

For overall relationship (N = 114) between psychopathy personality (PP) and empathy, r = -.277 (p < .01). For PP and affective empathy, r = -.289, (p < .01). No significant relationship between PP and cognitive empathy was found (Table I).

TABLE I
CORRELATION MATRIX OF PPI-R AND IRI SCORES (N = 114)

| Scale | PPI-TOTAL | PPI-self center | PPI-fearless | PPI-cold heartness | IRI-TOTAL | IRI-EMO |
|---|---|---|---|---|---|---|
| PPI-TOTAL | - | | | | | |
| PPI-self center | .769** | - | | | | |
| PPI-fearless | .713** | .148 | - | | | |
| PPI-coldheartness | .392** | .164 | .132 | - | | |
| IRI-TOTAL | -.277** | -.205* | -.029 | -.616** | - | |
| IRI-EMO | -.289** | -.113 | -.176* | -.541** | .911** | - |
| IRI-COG | -.091 | -.265** | .278** | -.399** | .584** | .198* |

* two-tail test at alpha = 0.05

TABLE II
t-TESTS ON PPI-R AND IRI OF HIGH AND LOW PP GROUPS

| Source of Variance | Mean (s.d.) | | df | t value | p | Effect size (d) |
|---|---|---|---|---|---|---|
| | LOW PP | HIGH PP | | | | |
| PPI-TOTAL | 250.83(11.04) | 314.15(13.65) | 68 | -21.394 | .000 | 5.116 |
| PPI-self center | 134.11(12.13) | 163.85(15.45) | 68 | -8.985 | .000 | 2.149 |
| PPI-fearless | 87.97(11.72) | 116.38(10.81) | 68 | -10.527 | .000 | 2.517 |
| PPI-coldheartness | 28.75(4.03) | 33.91(6.03) | 68 | -4.234 | .000 | 1.013 |
| IRI-TOTAL | 104.64(7.19) | 99.18(11.27) | 68 | 2.432 | .018 | -0.582 |
| IRI-EMO | 78.44(6.00) | 73.03(9.21) | 68 | 2.930 | .005 | -0.700 |
| IRI-COG | 26.19(4.05) | 26.145(5.17) | 68 | 0.43 | .966 | -0.010 |

High and Low PP were significantly different on overall empathy with t(53) = 2.432 (p = .018, d = -.582), and for affective empathy with t(53) = 2.930 (p = .005, d = -.700).

There was no significant difference on cognitive empathy with t(53) = .043 (p = .966, d = -.010) (Table II).

Both sets of analyses are consistent with the literature [23]..The result suggests in general the higher the PP score, the lower the empathy. By separately analyzing two components of empathy, PP is only related to affective empathy. In other words, there is no significant difference between High and Low PP on their cognitive empathy.

#### B. Prosocial Behavior for Three Target Groups

We first analyze the total donation of all three groups. There was no significant difference between the High and Low PP groups. Scenarios then were analyzed separately. A 3-way ANOVA was conducted for each group with Responsibility (Resp vs. Non-Resp), PP (High vs. Low), and Perspective (Empathetic vs. Objective). DV is the amount of donation. No significant result was found for the domestic violence group (Figs. 1 & 2).
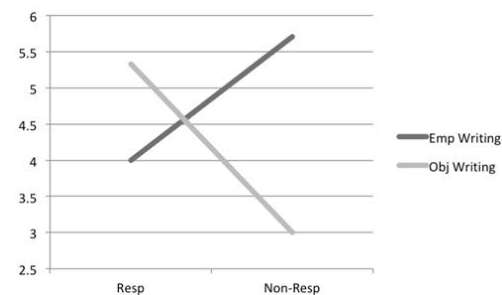


Fig. 1 Donation (in tokens) for domestic violence target group by Perspective writing and Responsibility for High PP group
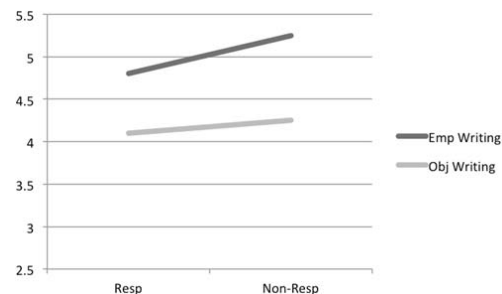


Fig. 2 Donation (in tokens) for domestic violence target group by Perspective writing and Responsibility for Low PP group

For depression with a suicide attempt, Responsibility had significant main effect with F(1, 47) = 4.248 (p < .05, $\eta_p^2$ = .083). This suggests that when the main character was not responsible for what happened, the target group will receive the highest donation (Figs. 3 & 4).

For an ex-offender, a significant three-way interaction was found with F(1, 47) = 4.516 (p < .05, $\eta_p^2$ = .088). Further analysis showed two simple main effects. For High PP, in Non-responsible condition, Empathic writing yield significantly higher donation than Objective writing with F(1, 47) = 4.83 (p < .05, $\eta_p^2$ = .0931). Also, for High PP, in Empathic writing condition, Non-responsibility yielded higher donation than

Responsible condition with $F(1, 47) = 4.85$ ($p < .05$, $\eta_p^2 = .0326$) (Figs. 5 and 6).
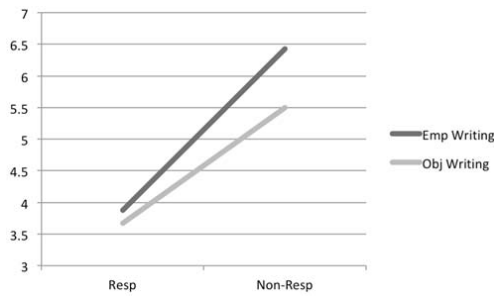


Fig. 3 Donation for depression with a suicide attempt group by Perspective writing and Responsibility for High PP group
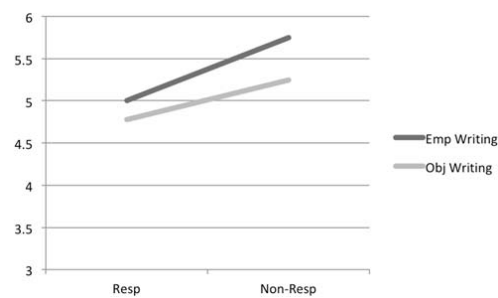


Fig. 4 Donation for depression with a suicide attempt group by Perspective writing and Responsibility for Low PP group
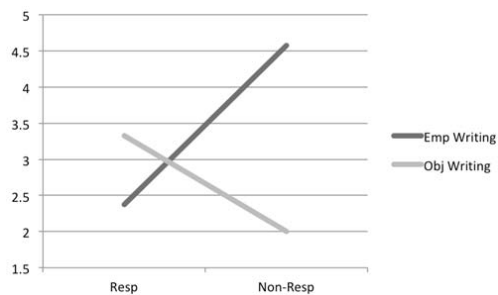


Fig. 5 Donation (in token) for ex-offender target group by Perspective writing and Responsibility for High PP group
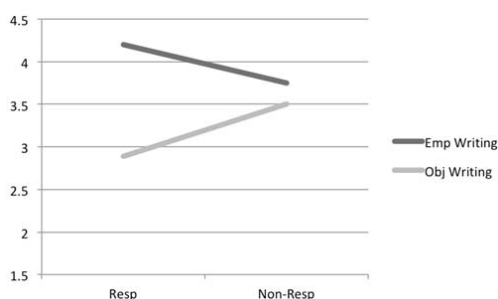


Fig. 6 Donation (in token) for ex-offender target group by Perspective writing and Responsibility for Low PP group

These analyses suggest that PP per se is not the key to prosocial behavior. However, the three scenarios did show a different result. To fully understand the effect, two more concepts were included in the discussion, namely Controversy, and Familiarity. The two concepts were brought up during a post-experiment interview. Controversy means diversity in people's opinion toward the target groups. Familiarity came from similar experiences from themselves or friends and family (Table III).

TABLE III
CONCEPTUAL CATEGORIZATION OF SCENARIOS BY CONTROVERSY AND FAMILIARITY

| Scenarios | Domestic Violence | Depression with Suicide Attempt | Ex-offender |
|---|---|---|---|
| Controversy | Low | High | Low |
| Familiarity | High | High | Low |

The results showed that when people have a strong personal opinion and attitude toward the familiar and less controversial group (i.e., domestic violence), no experimental effect was found. Domestic violence was categorized as "less controversial" because most participants thought that is not acceptable in the interview, no matter what the character had done. The victim was not to blame. On the contrary, for a familiar and controversial group (i.e., depression with a suicide attempt) perceived information could affect the donation. If the participants thought the character is responsible (e.g., they can prevent the event from happening) then the donation drops (Figs. 3 and 4).

Finally, for an unfamiliar group (i.e., an ex-offender) the highest donation came from the High PP group in Non-responsible and Empathetic writing. Ex-offenders are strangers to most participants therefore the information provided (responsible or not) is weighted more. A very interesting finding was even people with high PP have weaker affective empathy, temporarily encourage of taking empathetic perspective seems to work, at least during the donation stage. Our speculation goes as High PP has no problem in their cognitive empathy, and the affective empathy was temporarily aroused by the perspective-taking. That's why it showed the highest donation among all conditions. This is simply speculation; further investigation is needed before a conclusion can be drawn.

*C. Personality, Emotion, and Attitude on Prosocial Behavior*

Stepwise regression (forced) was conducted to test whether attitude change and emotion (measure by VAS) can predict prosocial behavior. The result showed no significant effect on all target groups. Both attitude change and VAS scores did not affect donation.

We concluded that attitude change is not a necessary mediator for prosocial behavior. This could be due to the possibility that other factors overwrite the potential effect of attitude change (e.g., Controversy and Familiarity discussed above) in the current paradigm, with the selected scenarios.

Further analysis showed some effects that can be accounted for by particular items of *Attitude Scale* by the analysis of regression. First, "They should be able to prevent what happened." (item 2) significantly predicted donation for domestic violence group ($\beta = -.278$, $p < .01$). The more the

participants believed there is no way to prevent the event from happening, the more they donate. Secondly, "It's all their fault." (item 1) significantly predicted donation in depression group ($\beta = -.311$, $p < .01$). The more the participants believed that is not the victims' fault the more they donate. Finally, "How do you feel about this group." (item 7) was significant for ex-offender ($\beta = .299$, $p < .05$). The more positively they feel the more they donate.

### D. Public Prosocial Behavior

We hypothesized that people with high PP tend to produce more public prosocial behavior. As in the literature [32], they have affective empathy deficit therefore their helping behavior may not be due to that they can feel others' suffering. On the other hand, they can be cognitive empathetic induced as people with low PP. Therefore, when people with high PP do help, there could be more public prosocial behavior for they may use it as a tool for social desirability, social success, or fame (as discussed above).

Even the analysis is not statistically significant, with $\chi^2(1, N = 55) = 1.816$, ($p = .142$), the raw data are suggestive. For Low PP, the number of participants chose to go public or not is even (15:15); however, for High PP, the "yes" is way higher than "no" (17:8). The non-significant result may be due to the small sample size.

## VIII. CONCLUSION

The basic findings of the current study include that the High PP group shows lower affective empathy but no difference in cognitive empathy than the Low PP group (Ho 1 confirmed). After induction (reading scenarios and perspective-taking writing) there is no significant difference in either emotion (by VAS) or donation between two PP groups (Ho 2 not confirmed). Attitude change is not necessary for prosocial behavior (Ho 3 not confirmed). Finally, the High PP group did show the tendency for more public prosocial behavior (Ho 4 confirmed).

Interesting results came from separate analyses done in each target group. With ANOVA by three IVs (Responsibility, Perspective-Taking, and PP), and the concepts of Controversy and Familiarity, the difference of donations between target groups did shed some light on how affective and cognitive empathy affect prosocial behavior.

Finally, even though the total score of attitude change is not a significant predictor, yet some of the items are, namely Items 1, 2, and 7. Further study would be insightful to clarify why and how these questions can be used to predict helping action.

## IX. LIMITATIONS

All participants were college students. We chose this population because PP traits are treated as a continuum. This sample is representative of our population in this sense. However, the lack of extremely high PP members (who would be diagnosed as PP disorder) may be the major reason we saw the "trend" in our data but did not get enough significant results.

Using tokens as the donation may not be "realistic" enough.

In other words, the participants may not take donations seriously enough. For example, in the post-experiment interview, some said "this is not real money, so I will allocate them evenly".

The validity of empathy induction can be improved as well. In the current study, it seems that participants were influenced by other factors such as their own opinion toward the groups (especially to an unfamiliar group such as ex-offender). Some stereotypes also exist and very hard to change. Pre-existing factors (e.g., some are frequent donors some never donate) had a certain influence. In the post-experimental interview, we also found that recent drastic social events had a direct impact on whom and how much the participants decided to help. All these factors seem to reduce the effect of our manipulation. More valid paradigms are important for future studies.

## APPENDIX

### Attitude Scale (for Domestic Violence)

Please answer the following questions to indicate how much you agree with the statements.

1. For most victims of domestic violence, what happened was all their fault.

| Strongly Disagree | | | | | | | | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

2. For most victims of domestic violence, they should be able to prevent what happened.

| Strongly Disagree | | | | | | | | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
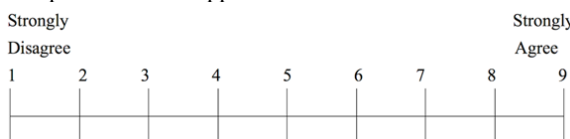
3. You care very much about what the victims of domestic violence face.

| Strongly Disagree | | | | | | | | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
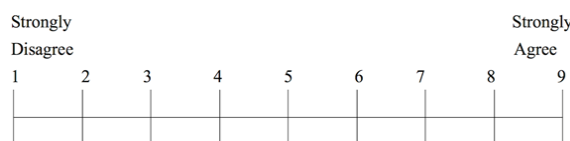
4. Our society hasn't done enough for victims of domestic violence.

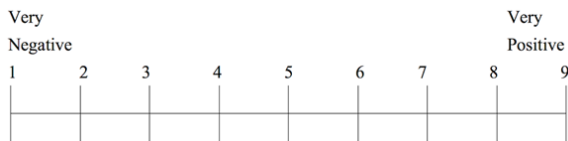| Strongly Disagree | | | | | | | | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

5. Among all problems, you think it is very important to help victims of domestic violence.

6. Our society should care more about the welfare of victims of domestic violence.
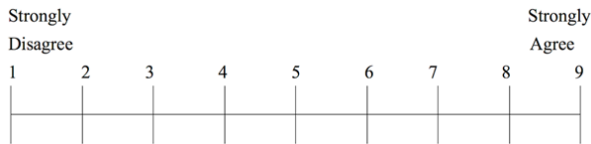


7. Generally, how do you feel about victims of domestic violence?

## REFERENCES

[1] Ajzen I. From Intentions to Actions: A Theory of Planned Behavior. In Kuhl J., & Beckmann J. (Eds.) *Action Control*. Springer Series in Social Psychology. Springer. 1985. doi.org/10.1007/978-3-642-69746-3_2.

[2] Anastassiou-Hadjicharalambous, X., & Warden, D. Cognitive and affective perspective-taking in conduct-disordered children high and low on callous-unemotional traits. *Child and Adolescent Psychiatry and Mental Health, 2(1),* 16. 2008. doi:10.1186/1753-2000-2-16.

[3] Batson, C. D., Chang, J., Orr, R., & Rowland, J. Empathy, attitudes, and action: Can feeling for a member of a stigmatized group Motivate One to Help the Group? *Personality and Social Psychology Bulletin, 28(12)*, 1656-1666. 2002. doi:10.1177/014616702237647.

[4] Batson, C. D., Polycarpou, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L. Bednar, Klein, T. R., & Highberger, L. Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology, 72(1)*, 105-118. 1997. doi:10.1037/0022-3514.72.1.105.

[5] Berk, L. E. *Child Development* (8th ed.). Boston: Pearson. 2009.

[6] Carlo, G., Eisenberg, N., & Knight, G. P. An objective measure of adolescents' prosocial moral reasoning. J*ournal of Research on Adolescence, 2(4)*, 331-349. 1992.

[7] Carlo, G., & Randall, B. A. The development of a measure of prosocial behaviors for late adolescents. *Journal of Youth and Adolescence, 31(1)*, 31-44. 2002

[8] Chang, J.-H., Huang, C.-L., & Lin, Y.-C. Psychological displacement writing paradigm: Characteristics and beneficial effects. *Chinese Journal of Guidance and Counseling, 28*, 29-60. doi:10.7082/CJGC.201009.0029. 2010.

[9] Cleckley, H. M. The Mask of sanity. *Postgraduate Medicine, 9(3)*, 193-197. 1951.

[10] Davis, M. H. Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44(1)*, 113-126. 1983.

[11] De Vignemont, F., & Singer, T. The empathic brain: How, when and why? *Trends in Cognitive Sciences, 10(10)*, 435-441. 2006.

[12] Dymond, R. F. A scale for the measurement of empathic ability. *Journal of Consulting Psychology, 13(2)*, 127-133. 1949.

[13] Eisenberg-Berg, N., Cameron, E., Tryon, K., & Dodez, R. Socialization of prosocial behavior in the preschool classroom. *Developmental Psychology, 17(6)*, 773-782. 1981

[14] Eisenberg, N., Eggum, N. D., & Di Giunta, L. Empathy-related responding: Associations with prosocial behavior, aggression, and intergroup relations. *Social Issues and Policy Review, 4(1),* 143-180. 2010.

[15] Fabes, R. A., Carlo, G., Kupanoff, K., & Laible, D. Early adolescence and prosocial/moral behavior I: The role of individual processes. *The Journal of EarlyAdolescence, 19(1)*, 5-16. 1999.

[16] Feshbach, N. D. Studies of empathic behavior in children. *Progress in Experimental Personality Research, 8*, 1-47. 1978.

[17] Graziano, W. G., Habashi, M. M., Sheese, B. E., & Tobin, R. M. Agreeableness, empathy, and helping: a person x situation perspective. *Journal of Personality and Social Psychology, 93(4)*, 583-599. 2007. doi:10.1037/0022-3514.93.4.583

[18] Hare, R. D. *Manual for the Revised Psychopathy Checklist* (2nd ed.). Toronto: Multi-Health Systems. 2003

[19] Hare, R. D. *The Hare Psychopathy Checklist-revised*. North Tonawanda, NY: Multi-Health Systems. 1991.

[20] Hatfield, E., Cacioppo, J. T., & Rapson, R. L. Emotional contagion. *Current Directions in Psychological Science, 2(3)*, 96-100. 1993.

[21] Hatfield, E., Rapson, R. L., & Le, Y.-C. L. Emotional contagion and empathy. In Decety, J., & Ickes W. (Eds.) *Social Neuroscience. The Social Neuroscience of Empathy*. MIT Press. 2009. doi.org/10.7551/mitpress/9780262012973.001.0001.

[22] Jin S.-R. Review and prospect of psychological displacement writing paradigm: Pronouns characteristics and its beneficial effects. *Chinese Journal of Guidance and Counseling, 53*, 117-149. 2018. doi:10.3966/172851862018100053005.

[23] Mayer, S. V., Jusyte, A., Klimecki-Lenz, O. M., & Schönenberg, M. Empathy and altruistic behavior in antisocial violent offenders with psychopathic traits. *Psychiatry Research, 269*, 625-632. 2018.

[24] McGinley, M., & Carlo, G. Two sides of the same coin? The relations between prosocial and physically aggressive behaviors. *Journal of Youth and Adolescence, 36(3)*, 337. 2007.

[25] McIlwain, D. Bypassing empathy: A Machiavellian theory of mind and sneaky power. In B. Repacholi & V. Slaughter (Eds.), *Macquarie Monographs in Cognitive Science. Individual Differences in Theory of Mind: Implications for Typical and Atypical Development* (p. 39–66). Psychology Press. 2003.

[26] Mehrabian, A., & Epstein, N. A measure of emotional empathy. *Journal of Personality, 40(4)*, 525-543. 1972.

[27] Patrick, C. J., Fowles, D. C., & Krueger, R. F. Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21*, 913–938. 2009.

[28] Schroeder, D. A., Penner, L. A., Dovidio, J. F., & Piliavin, J. A. *The Psychology of Helping and Altruism: Problems and Puzzles*. McGraw-Hill. 1995.

[29] Skeem, J. L., Polaschek, D. L. L., Patrick, C. J., & Lilienfeld, S. O. Psychopathic personality: Bridging the gap between scientific evidence and public policy. *Psychological Science in the Public Interest, 12(3)*, 95-162. 2011. doi:10.1177/1529100611426706

[30] Stotland, E. Exploratory investigations of empathy. *Advances in Experimental Social Psychology, 4*, 271-314. 1969. doi.org/10.1016/S0065-2601(08)60080-5.

[31] Wai, M., & Tiliopoulos, N. The affective and cognitive empathic nature of the dark triad of personality. *Personality and Individual Differences, 52(7)*, 794-799. 2012. doi:10.1016/j.paid.2012.01.008

[32] White, B. A. Who cares when nobody is watching? Psychopathic traits and empathy in prosocial behaviors. *Personality and Individual Differences, 56*, 116-121. 2014.