



Awareness of Meaning: The Mechanism Between Future Orientation and Prosocial Tendency

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Abstract. The positive relationship between future orientation and prosocial tendency has been consistently reported. However, the possible mechanism has not yet examined. Previous research revealed that the positive effect of future orientation on meaning in life, and the positive effect of meaning in life on prosocial tendency. Therefore, it is hypothesized that meaning in life and its two components (presence of meaning and search for meaning) are potential mediators between the relationship between future orientation and prosocial tendency. This study recruited 432 Hong Kong youths aged 15–35 (males: 30.5%; females: 69.5%) to participate in an online cross-sectional survey in the first half of 2020. The survey questionnaire included three scales: including 1) The Scale for Measuring Adult's Prosocialness, 2) Consideration of Future Consequence Scale, and 3) Meaning in Life Questionnaire. The major results showed 1) a significant partial mediation effect of meaning in life on the relationship between future orientation and prosocial tendency, and 2) significant partial mediation effects of presence of meaning and search for meaning on the relationship between future orientation and prosocial tendency respectively. These findings suggested that developing meaning-centered interventions that can increasing youth's awareness of their meaning in life (past and present) and finding their meaning in life (future) can strengthen the positive effect of future orientation on their prosocial tendency.

Keywords: Prosocial Tendency · Future Orientation · Meaning in Life · Presence of Meaning · Search for Meaning

1 Introduction

The importance of prosociality has been evidenced in previous research due to its capacity to increase the survival chances of human species or kins (Hamilton, 1964; Hoffman, 1981), and foster social harmony (Eisenberg & Miller, 1987; Feigin et al., 2014). During

the COVID-19 pandemic, the importance of prosociality becomes increasingly salient because research (Dinić & Bodroža, 2021) has revealed that prosocial behaviors (cooperation and sharing) could be regarded as protective measures to resolve and improve the situation in facing global crises. Nevertheless, during the pandemic, the volunteering time, volunteers, and even resources for non-government organizations operation have decreased substantially across countries (Australian Institute of Health and Welfare, 2021; Fidelity Charitable, 2020; Sterling Volunteers, 2021; Volunteer Movement, 2020). In Hong Kong, the decreasing trend in prosocial behaviors had been noted even before the pandemic (Legislative Council Secretariat, 2021; Yip et al., 2018).

Concerning the decreasing trend in prosociality across counties, it is crucial to investigate how to enhance the prosocial tendency of individuals. Previous research demonstrated that future orientation was a strong and positive predictor of prosocial tendency. In addition, positive correlation between meaning in life and prosocial tendency was also reported. However, little is known about the mediating role of meaning in life on the relationship between future orientation and prosocial tendency. Therefore, the study recruited a sample of Chinese youth in Hong Kong to investigate the possible mediating role of meaning in life and its two components (presence of meaning and search for meaning) between future orientation and prosocial tendency during the second wave of COVID-19 pandemic.

2 Literature Review

2.1 Prosocial Tendency

Prosocial behaviors refer to behaviors intended to reduce the suffering and enhance the benefits of others, and prosocial tendency refers to the tendency to perform prosocial behaviors (Caprara et al., 2005; Eisenberg & Miller, 1987; Feigin et al., 2014). There is a variety of prosocial acts, including volunteering, donation, helping, and cooperation. Also, prosocial acts are considered as one of the essential components for social harmony establishment. Early theories, including inclusive fitness (Hamilton, 1964; Hoffman, 1981), kin selection (Hoffman, 1981), and reciprocal altruism theory (Trivers, 1971), stressed the importance of prosocial behaviors in terms of survival value. Recent theories of prosociality can be categorized into egoism, and altruism purpose (Feigin et al., 2014). According to the egoism perspective, prosocial behaviors are performed to get rewards like social reputation, future benefit, and happiness (Bénabou & Tirole, 2006; Dovidio et al., 1991) or reduce negative arousal or tension provoked by watching others' suffering (Batson et al., 1981; Cialdini et al., 1987; Mikulincer & Shaver, 2010). On the other hand, according to altruism perspective, prosocial behaviors are motivated by empathy and/or selfless purpose (Hoffman, 1977a; Weiss et al., 1971). In other words, a prosocial act is performed to improve others' wellbeing as one understands the difficulties and feels the emotions of the needy people.

Interestingly, Feigin et al. (2014) argued that there were multiple motivators contributing to a prosocial act, and these motivators can involve both egocentric and altruistic purposes. The social dilemmas theory (Van Lange et al., 2013) provides a framework to investigate the dynamic of prosocial motivation and prosocial acts. Although a prosocial behavior can lead to the fulfillment of others' needs with the price of the sacrifice of

short-term personal benefits, people who engaged in prosocial behaviors are more likely to get rewards (e.g. life value) in a long run. Hence, prosocial acts are the results of a complex mixture of self- and other-oriented motivators.

2.2 Future Orientation and Prosocial Tendency

Future orientation indicates the extent to which an individual anticipates about the future and behaves according to this anticipation of future. In other words, people with higher level of future orientation tend to value the future rather than the present, whereas people with lower level of future orientation tend to emphasize immediate outcomes and the present (Nurmi, 2005; Seginer, 2009). Future orientation is an umbrella term which covers the terms like future time perspective, possible future self, consideration of future consequences, and future time orientation (Seginer, 2009). Additionally, future orientation is related to emotions, attitudes, cognitions, behaviors, and decision-making process of an individual (Nurmi, 2005). Therefore, future orientation has a substantial influence on an individual's life.

Research revealed that future orientation can significantly predict prosociality (Joireman et al., 2004; Strobel et al., 2013), and mediate the relationship between awe and prosociality (Li et al., 2019), and between altruistic, and reputational motivation and prosociality (Choi, 2020). Furthermore, the social dilemmas theory (Van Lange et al., 2013) suggests a future-outcome-orientated perspective of prosociality which highlights future outcomes estimation and delayed gratification. Importantly, based on theory of mind, Moore et al.'s (2001) study revealed the ability to imagine the future self and the mental states of others, is the cognitive basis for future orientation and prosociality for an individual to have the greatest self and others' interests. However, the social dilemmas theory and the theory of mind cannot fully and sufficiently explain the association between future orientation and prosociality for the costly prosocial behaviors (e.g. organ donation).

Interestingly, Märtsin (2019) proposed that anticipated future outcomes are not meaningful without a meaning making process. Meaning making is the process of which an individual understands, interprets, and comprehends information according to one's own schemes (Starbuck & Milliken, 1988). To interpret the future consequences, an individual, therefore, needs to refer to one's value and meaning system to judge whether the future outcomes following a prosocial act, or the prosocial act per se, is meaningful and desirable by meaning making (Märtsin, 2019). If the future outcomes are meaningful to the performer of a prosocial act, theoretically, one may have higher prosocial tendency to perform the act. Hence, it is possible that meaning in life mediates the relationship between future orientation and prosocial tendency through this meaning making process.

2.3 Meaning in Life

Meaning in life refers to the degree to which an individual subjective experience of one's life and existence are coherence and purposeful that involves meaning making to interpret and comprehend the world and events encountered (Heintzelman & King, 2014; King & Hicks., 2021; Steger, 2012). There are three constructs for meaning in life: comprehension stands for the understanding regarding oneself, the life, and the

world, purpose refers to the sense of having valued goals and life direction, and significance indicates the positive evaluation regarding the influences of one's existence on the surrounding environments (George & Park, 2016; King & Hicks, 2021; Steger et al., 2008).

Alternatively, Steger et al. (2006) introduced the Meaning in Life Questionnaire which consists of the presence of meaning and the search for meaning dimensions. The presence of meaning indicates the subjective experience of one's worthiness and importance whereas the search for meaning demonstrates the motivation or tendency to look for, deepen, and establish the sense of meaning (Frankl, 1984; Steger, 2012). These two dimensions are not mutually exclusive; that is, people with high level of search for meaning may also have high level of presence of meaning. Steger et al. (2006) identified four types of combinations of these two dimension: for people with low presence of meaning, they are at either meaning diffusion (low search) or meaning moratorium (high search) stage, whereas for those with high presence of meaning, they are at either meaning foreclosure (low search) or meaning achievement (high search) stage. Furthermore, Chu and Fung (2021) suggested two types of meaning searching - growth searching and deficiency searching. Growth searchers tend to look for deeper understandings of their well-established meaning and seek for higher meaning in life. On the contrary, deficiency searchers tend to search for meaning due to the existential anxiety generated by the absence of meaning. Despite there are various combinations of presence of meaning and search for meaning, the types of combination can change overtime, that is, an individual can establish one's meaning and even deepen one's meaning (Brown, 2000; Chu & Fung, 2021). Hence, it is possible that an individual would further develop and deepen other-orientated meaning.

2.4 Meaning in Life and Future Orientation

Theoretically, future orientation is associated with the presence of meaning closely since the three constructs of meaning in life involves anticipating or imagining the future (Heintzelman & King, 2014; King & Hicks., 2021; Steger, 2012). The comprehension construct involves the integration of the past, present, and future to develop a sense of continuity, the significance construct involves the predicted influence on the world in the future; the purpose construct involves goals setting and goal achievement (King & Hicks., 2021; Steger, 2012). Also, several studies (Baumeister et al., 2020; Hicks et al., 2012; Miao et al., 2021) reported the positive relationship between future orientation and presence of meaning. As mentioned above, the future in mind is meaningless without any meaning making processes (Märtsin, 2019). Therefore, it is possible that presence of meaning is crucial to judge the meaningfulness and value of the anticipated future outcomes and motivates people to move forward or to avoid the future.

Considering that the sense of meaningfulness is the need for human (Frankl, 1984), however, studies found contradicting results regarding the association between search for meaning and future orientation. Steger et al. (2008) revealed that the search for meaning in life did not correlate to the future time perspective, but rather, to the negative past and present experiences. However, Leshkovska and Shterjovska (2014) argued that anticipated future motivates meaning searching. And they suggested that youths are more likely to search for meaning in the future but not the negative past and present

experiences. Despite the contradicting findings, it is possibly that future orientation can predict search for meaning.

2.5 Meaning in Life and Prosocial Tendency

Numbers of studies demonstrated that presence of meaning positively predict prosocial tendency. For instance, Law and Shek (2009) indicated there is strong association between meaning in life and prosocial value function, in other words, various levels of meaning in life contribute to different prosocial beliefs, intentions, and behaviors. Also, research revealed that meaning in life positively predicts adolescents' altruism (Shek et al., 1994) and has a buffering effect on antisocial behaviors (Machell et al., 2016). It is possible that the presence of meaning can enhance prosocial tendency due to the self-transcendence property (Brown, 2000; Seligman, 2004).

Furthermore, research demonstrated that people with high level of search for meaning tend to engage in prosocial acts (Lin, 2019; Scales et al., 2014; Van Tilburg & Igou, 2017). It is possible that prosocial acts can enhance meaning in life (Brown et al., 2012; Klein, 2017; Van Tongeren et al., 2016). Hence, in order to have a sense of meaningfulness, meaning seekers are more likely to enhance their prosocial tendency. Nevertheless, the prosocial acts motivated by meaning searching could be quite extreme. Dakin et al. (2021) revealed that the meaning-seekers were more likely to perform costly prosocial acts such as kidney donation and even self-sacrifice; it is possible due to the greater value of these prosocial acts attached with pain, effort, or other costs (Inzlicht et al., 2018; Olivola & Shafir, 2011).

3 The Present Study

Future orientation provides sources (i.e., imagined future and goal) for people to comprehend the meaning of their lives and help people to set a goal as well as facilitate goal-oriented behaviors for the enhancement of the presence of meaning. Further, the meaning-making process makes the anticipated future meaningful to facilitate the direction of the prosocial behaviors. Meanwhile, future orientation can help to motivate the search for deeper meaning in the future to establish the sense of meaning in life. This search for meaning in the future enhances prosocial tendency due to the urge to have a sense of meaning. Importantly, the mechanisms of enhancing prosocial tendency from the presence of meaning and the search for meaning are different. The presence of meaning per se may include prosocial acts, that is, the meaning is to contribute to something greater, whereas the meaning-seeker may engage in prosocial behavior for the establishment of one's sense of meaning. Therefore, it is expected that both the presence of meaning and the search for meaning could mediate the relationship between future orientation and prosocial tendency.

Therefore, there are three hypotheses as follow:

- 1) Meaning in life significantly mediates the relationship between future orientation and prosocial tendency.

- 2) The presence of meaning significantly mediates the relationship between future orientation and prosocial tendency.
- 3) The search for meaning significantly mediates the relationship between future orientation and prosocial tendency.

4 Method

4.1 Participants

An online survey was administrated from February to June 2020. Participants were Hong Kong youth aged 15–34 and were recruited by snowball sampling method. Initially, there were 465 respondents; however, 15 of them were excluded due to incomplete responses, 17 of them were excluded since their time spent on the survey was less than 3 min, and two of them were excluded due to out of the selected age range (below 15). Ultimately, 431 valid data were received. 30.3% of the participants were males and 69.7% were females. The age of participants ($M = 22.99$, $SD = 3.25$) ranged from 15 to 34 (age distribution: 11.4% for 15–19; 60.3% for 20–24; 25.5% for 25–29; 2.8% for 30–34). For educational level, 87.2% of the participants was pursuing or held a bachelor's degree ($n = 376$), 6.5% was pursuing or held a master's degree or above ($n = 28$), and 6.3% was pursuing or held a high school certificate or not yet complete high school ($n = 27$). Additionally, 52% of the participants were students ($n = 224$), 36.9% worked full-time job ($n = 159$), 4.2% worked part-time job ($n = 18$), and 7% were self-employed, unemployed, or other ($n = 30$).

4.2 Materials

Three scales were adopted in the online survey: 1) The Scale for Measuring Adult's Prosocialness (Caprara et al., 2005), 2) Consideration of Future Consequences Scale, future subscale (Joireman et al., 2012), and 3) The Meaning in Life Questionnaire (Steger et al., 2006). In this study, the Chinese version of these questionnaires were used. Notably, at the end of the survey, participants would fill in the general demographic information including gender, age, education level, and occupation.

Prosocial Tendency. The Scale for Measuring Adult's Prosocialness (Caprara et al., 2005) consists of 16 items in which respondents indicated their responses on a 5-point Likert scale (1: Never/Almost Never True; 3: Sometimes True; 5: Always/Always True), and the reliability of the Chinese version is $\alpha = .91$.

Future Orientation. The Consideration of Future Consequences Scale, future subscale (Joireman et al., 2012) includes 5 items in which respondents indicated their responses on a 7-point scale (1: Extremely Uncharacteristic; 4: Uncertain; 7: Extremely Characteristic), and the reliability of the Chinese version is $\alpha = .77$.

Meaning in Life. The Meaning in Life (Steger et al., 2006) scale contains 10 items in which respondents indicated their responses on a 7-point scale (1: Absolutely Untrue; 4: Can't Say True or False; 7: Absolutely True), and the reliability of the Chinese version are $\alpha = .87$ for the presence of meaning and $\alpha = .88$ for the search for meaning.

4.3 Procedures

The hyperlink to the online survey was sent to participants via email and Whatsapp. By clicking on the hyperlink, an individual would be given informed consent. After obtaining their consent, participants should complete the questionnaire. The data collected would be analyzed with SPSS 26 and Haye's Process Macro for SPSS v3.5 (hereafter, Process). First, the correlations among future orientation, prosocial tendency, meaning in life, presence of meaning, and search for meaning would be investigated. Second, the mediation effect of meaning in life on the relationship between future orientation and prosocial tendency was investigated by using Process. Finally, the mediation effects of the presence of meaning and the search for meaning on the relationship between future orientation and prosocial tendency were explored.

5 Results

5.1 Correlation Analysis

According to the correlation matrix (see Table 1), future orientation was found positively correlated to prosocial tendency ($r = .341, p < .001$), meaning in life ($r = .412, p < .001$), presence of meaning ($r = .326, p < .001$), and search for meaning ($r = .303, p < .001$), and all the strengths of association were medium. Further, prosocial tendency was found positively correlated to meaning in life ($r = .422, p < .001$), presence of meaning ($r = .328, p < .001$), and search for meaning ($r = .319, p < .001$), and the strength of association were moderate. Also, undoubtedly, meaning in life positively and strongly correlated with presence of meaning ($r = .816, p < .001$), and search for meaning ($r = .708, p < .001$). However, the correlation between presence of meaning and search for meaning was the weakest but still positively significant ($r = .169, p < .001$).

5.2 Meaning in Life as Mediator

The results of the path analysis generated by Process showed that the direct effect from future orientation to prosocial tendency was positive and statistically significant

Table 1. Pearson Correlation Among Prosocial Tendency, Future Orientation, Meaning in Life and Subscales

Variable	1	2	3	4
1. PT				
2. FO	.341***			
3. MIL	.422***	.412***		
4. P-MIL	.328***	.326***	.816***	
5. S-MIL	.319***	.303***	.708***	.169***

Note. PT = Prosocial Tendency; FO = Future Orientation; MIL = Meaning in Life; MILP = Meaning in Life-Presence; MILS = Meaning in Life-Search. * $p < .05$, ** $p < .01$, *** $p < .001$

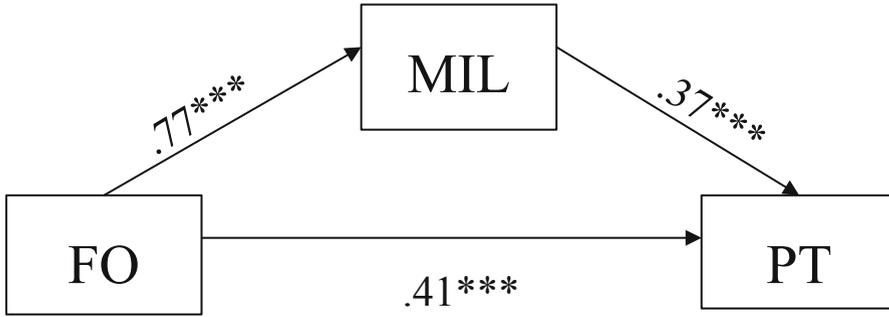


Fig. 1. The mediation of meaning in life (MIL) in the relationship between future orientation (FO) and prosocial tendency (PT) *Note.* * $p < .05$, ** $p < .01$, *** $p < .001$

($b = .407$, $\beta = .201$, $p < .001$), indicating that people with higher future orientation were more likely to have higher prosocial tendency than those with lower future orientation. The effect from future orientation on meaning in life was positive and statistically significant ($b = .768$, $\beta = .412$, $p < .001$), indicating that people with higher future orientation were more likely to have higher meaning in life than those with lower future orientation. Finally, the effect from meaning in life on prosocial tendency was also positive and significant ($b = .368$, $\beta = .339$, $p < .001$), indicating that people with higher sense of meaning in life were more likely to have higher prosocial tendency than those with lower sense of meaning in life. Further, the indirect effect was tested based on the Sobel's test, the indirect effect of future orientation on prosocial tendency via meaning in life was significant ($z = 5.716$, $p < .001$). Therefore, meaning in life partially mediated the relationship between future orientation and prosocial tendency (the standardized coefficient decreased from .341 to .201) (Fig. 1).

5.3 Presence of Meaning and Search for Meaning as Mediators

Again, the path from future orientation to prosocial tendency was positive and significant ($b = .406$, $\beta = .201$, $p < .001$), indicating that those with higher scores in future orientation also have higher scores in prosocial tendency. The path from future orientation to the presence of meaning ($b = .436$, $\beta = .326$, $p < .001$), and to the search for meaning ($b = .332$, $\beta = .303$, $p < .001$) were positively and statistically significant, indicating that people with higher future orientation tended to have higher scores in the presence of meaning and search for meaning. Furthermore, the effect of the presence of meaning ($b = .342$, $\beta = .226$, $p < .001$), and the search for meaning on prosocial tendency ($b = .406$, $\beta = .220$, $p < .001$) were both positively and statistically significant. The results indicated that people scoring higher in presence of meaning and search for meaning were more likely to have higher prosocial tendency, respectively. Based on Sobel's test (1982), the indirect effect of future orientation on prosocial tendency via the path of the presence of meaning ($z = 4.076$, $p < .001$), and the search for meaning ($z = 3.916$, $p < .001$) were significant. Thus, there were significant partial mediation effects of presence of meaning and search for meaning on the relationship between future orientation and prosocial tendency, respectively (Fig. 2).

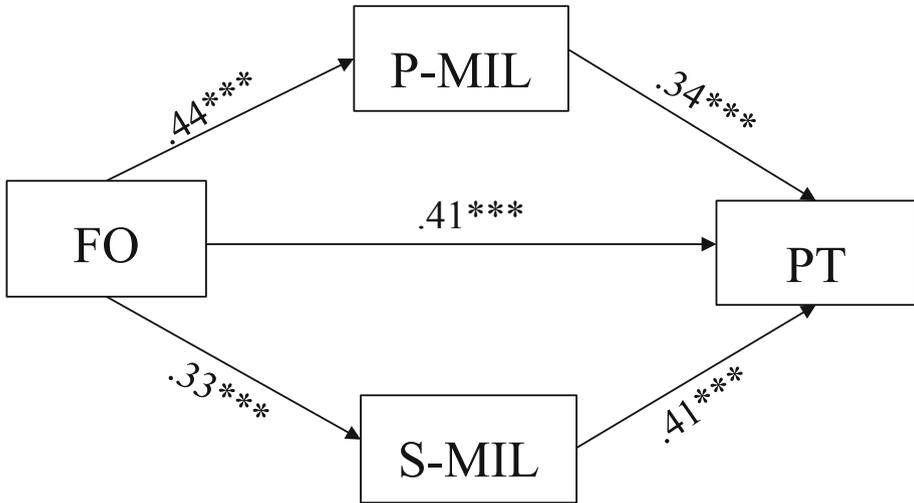


Fig. 2. The mediation of the presence of meaning in life (P-MIL) and the search for meaning in life (S-MIL) in the relationship between future orientation (FO) and prosocial tendency (PT)
Note. * $p < .05$, ** $p < .01$, *** $p < .001$

6 Discussion and Conclusion

The results showed that meaning in life significantly and partially mediated the relationship between future orientation and prosocial tendency. In other words, future orientation was positively related to meaning in life and meaning in life was positively related to prosocial tendency. These findings supported the hypothesis 1. Also, both presence of meaning and search for meaning partially and significantly mediated the relationship between future orientation and prosocial tendency. These mediation effects imply both presence of meaning and search for meaning could be enhanced by future orientation and further enhance prosocial tendency. These results supported both hypotheses 2 and 3. The results of this study were consistent with the findings of previous studies that future orientation enhanced the presence of meaning (Baumeister et al., 2020; Hicks et al., 2012; Miao et al., 2021) and the search for meaning (Leshkovska & Shterjovska, 2014) as well as between prosocial tendency and presence of meaning (Law & Shek, 2009) and search for meaning (Lin, 2019; Scales et al., 2014; Van Tilburg & Igou, 2017).

The potential explanation regarding the mediation effect of the presence of meaning is related to meaning making process and self-transcendence. Future orientation provides sources to construct the presence of meaning by meaning making processes (Märtsin, 2019). Alternatively, future orientation helps an individual to consider the possible outcomes of a particular prosocial behavior, and the meaning making process helps to identify the desirable or important outcomes. Eventually, the non-egocentric and self-transcendent property of meaning motivates prosocial tendency (Brown, 2000; Seligman, 2004).

For the mediation effect of search for meaning is different. According to the classification of meaning seekers (Chu & Fung, 2021), growth searchers think about the future

tend to search for a deeper understanding of meaning, whereas deficiency searchers tend to establish their meanings motivated by the future. Hence, given the meaning-boosting effect of prosocial acts (Brown et al., 2012; Klein, 2017; Van Tongeren et al., 2016), both types of searchers are more likely to have higher level of prosocial tendency to establish their meanings or to further explore their deeper meanings.

The meaning making process is crucial for every action (Märtsin, 2019) and meaning in life was assumed to fully mediate the relationship. However, meaning in life did not fully mediate the relationship between future orientation and prosocial tendency, and it is possibly due to the internalized meaning system. Indeed, the process of meaning making is crucial to make the anticipated future meaningful. For example, an individual believes that money donation would help the needy people to fulfill their needs, and the need fulfillment of the people is valuable, meaningful, and desirable as the individual established other-focused meaning. Consequently, the individual decides to donate money. In this example, the decision of money donation is the manifestation of prosocial tendency, and the belief of the causality between donation and the fulfillment is the manifestation of future orientation. Importantly, the evaluation of the fulfillment is the process of meaning making and reflects one's meaning in life.

In conclusion, using a sample of Chinese youth in Hong Kong during the first wave of pandemic, the findings of this study supported the mediation effects of future orientation on prosocial tendency through the overall meaning in life, the presence of meaning and the search for meaning. Importantly, the results indicate that consideration of future consequences may raise youth's awareness of other-oriented and self-transcendent meaning can stimulate their tendencies to search for meaning which further increase their prosocial tendencies during life adversities. Therefore, it is advocated to promote and cultivate meaning in life and other-oriented and self-transcendent meaning among youths through directing them to consider thinking the possible future of their prosocial behaviours. Specifically, research should consider providing psychoeducation and developing culturally sensitive interventions to increase youth's tendency to think about the future, to search for their meaning in life, and to reflect their life direction may help to promote prosocial tendency.

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