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SOCIAL PSYCHOLOGY | RESEARCH ARTICLE

Collective harmony as a moderator of the association between other-referent upward counterfactual thinking and depression

Anne Gene Broomhall^{1*} and Wendy J. Phillips¹

Abstract: The current study aimed to investigate a recently observed significant positive relationship between other-referent upward counterfactual thinking and depressive symptoms in a Filipino sample by exploring whether collectivist harmony may determine when other-referent upward counterfactual thinking confers risk for depression. An online survey was completed by 598 university-educated residents of the Philippines ($M_{age} = 29.74$, $SD = 10.27$; Range = 18 to 71). As hypothesised, both other-referent upward counterfactuals and collective harmony were significantly positively associated with depression. A moderation analysis revealed that other-referent upward counterfactual thinking was positively related to depression at low and moderate levels of harmony but not at high levels of harmony. This interaction suggests that generating other-referent upward counterfactuals may increase depression among individuals who adhere to low or moderate harmony maintenance norms, and that individuals with high harmony are likely to experience high levels of depression irrespective of their generation of other-referent upward

ABOUT THE AUTHORS

Anne Gene Broomhall (Post Grad Dip Psychology, James Cook University, Australia) is currently a PhD student at the University of New England, Australia, and is an Associate Member of the Australian Psychological Society (APS). Her research interests include the association between counterfactual thinking tendencies and depression. The current study's findings contribute to the extant literature about the link between other-referent upward counterfactual thinking and depression symptoms in university-educated Philippine residents. It also encourages other researchers to conduct replication studies.

Wendy J. Phillips is currently a Senior Lecturer in Psychology at the University of New England, Australia. Her research interests include mental health and psychological well-being, and cognitive models of behaviour, risk perception and decision-making in applied contexts. She is particularly interested in the relative influence of implicit (automatic, affective, fast, experiential) vs. explicit (deliberate, rule-based, slow, rational) processes involved in regulating emotions, managing problems or making decisions.

PUBLIC INTEREST STATEMENT

Individuals may blame other people for their misfortunes as they think about how events could have unfolded favourably. Known as other-referent upward counterfactual thinking, this mental activity is posited to mitigate depression because it downplays self-blame. However, a recent finding indicated that this mental activity was associated with increased depression symptoms in a university-educated Philippine sample—a cultural background that emphasises adherence to restrictive interpersonal harmony norms. We replicated and extended this finding by investigating if frequent generation of other-referent upward counterfactuals corresponds to high levels of depression symptoms in individuals who have high harmony tendencies. Although high levels of harmony were associated with the highest levels of depression, frequent other-referent upward counterfactuals were positively associated with depression at low and moderate levels of harmony but not at high levels of harmony. However, the practical significance of this finding may be limited due to the small magnitude of the effect.

counterfactuals. However, the predictive effect of this interaction was small, which may limit its practical significance. Possible implications of these results are discussed.

Subjects: Social Psychology; Cognition & Emotion; Mental Health

Keywords: other-referent upward counterfactual thinking; depression; harmony; advice; collectivism; effect size

1. Introduction

After a negative life event, people often imagine the good things that could have happened to them if not for other people's actions. *Other-referent upward counterfactual thinking* is a cognitive activity that pertains to envisioning how negative life events could have been better and how other people were responsible for such undesired outcomes (Callander, Brown, Tata, & Regan, 2007; Rye, Cahoon, Ali, & Daftary, 2008) (or "other-focussed"; Catellani & Bertolotti, 2014; Roese & Epstude, 2017). For example, after not having achieved an important goal, one may think: "If only my colleague was more responsible, then this project would've been successful.". Other-referent upward counterfactual thinking has been investigated in relation to life experiences that are relatively distressing, such as unsatisfactory performances (Allen, Greenlees, & Jones, 2014; Markman & Miller, 2006), to traumatic events that may engender distress and depression, such as losing family members (e.g., Callander et al., 2007; Davis, Lehman, Wortman, Silver, & Thompson, 1995). Individuals engage in other-referent upward counterfactual thinking activity to deflect blame; hence, it has been postulated to play an important role in regulating negative affect (Roese & Epstude, 2017), including reducing depression symptoms (Rye et al., 2008). However, a recent study found a significant positive relationship between other-referent upward counterfactual thinking and depressive symptoms in a university-educated Filipino sample, suggesting the opposite effect (Broomhall & Phillips, 2018).

This unexpected positive association may be culturally specific. In interdependent and collectivist cultures, like the Philippines, it is accepted practice to ask for advice from others to obtain social support (e.g., Fernandez, 2012). However, engaging in behaviours that maintain and foster collective harmony is also necessary to ensure acceptance from the same social environment (Cheung & Ma, 2011; Markus & Kitayama, 1991). Hence, doing things that benefit the group more than the self, sharing resources with others, and acquiescing to requests are some of the socially-sanctioned norms that individuals are expected to follow (Hui & Triandis, 1986; Markus & Kitayama, 1991; Triandis, 1989). In such a cultural context, harmony-maintenance norms may make personally-desired outcomes rather difficult to achieve. Individuals may see themselves "in a bind"—although they may strongly believe that better outcomes for themselves might have been possible, the collective harmony norms that they need to adhere to may prevent such desired outcomes.

In the current study, we examined whether the collectivism domain of harmony (Shulruf, Hattie, & Dixon, 2011) may determine when other-referent upward counterfactual thinking corresponds to increased depression symptoms. A greater understanding of the possible dysfunctional consequence of interdependence will be helpful in improving psychotherapy strategies for depression.

1.1. Other-referent upward counterfactual thinking and depression

From an affect regulation viewpoint, other-referent upward counterfactual thinking activity is supposed to make individuals feel better because failures are projected on other people (Roese & Epstude, 2017). It involves a self-serving attributional bias (Roese & Olson, 2007), so individuals feel less responsible for their unfavourable outcomes and therefore maintain positive views of themselves (Miller & Ross, 1975; Zuckerman, 1979). Indeed, quite a number of studies have demonstrated the self-serving characteristic of other-referent upward counterfactuals and how

they can be used purposively to evade personal responsibility (e.g., Catellani & Bertolotti, 2014; Goerke, Moller, Schulz-Hardt, Napiersky, & Frey, 2004; McCrea, 2007; Roese & Olson, 1993). For instance, individuals who would like to present themselves in a good light may articulate other-referent upward counterfactuals to excuse and defend their erroneous decisions against harsh social judgements (Catellani & Bertolotti, 2014). They may also enhance their self-esteem by engaging in other-referent upward counterfactual thinking instead of taking personal responsibility following failures (Roese & Olson, 1993). Thus, other-referent upward counterfactual thinking is believed to desensitise individuals to negative affect that may be experienced following regrettable situations (Roese & Epstude, 2017; Zeelenberg & Pieters, 2007).

In a study about counterfactual thought types and their associations with affect assessments, Rye et al. (2008) found that other-referent upward counterfactual was the only type of upward counterfactual that was unrelated to depressive symptom severity. Accordingly, these researchers suggested that other-referent upward counterfactuals may play a role in relieving self-blame and depressive mood. As classic cognitive theories of depression suggest, depression is often brought about by mental processes that invoke thoughts involving a maladaptive internal attributional style (Abramson, Metalsky, & Alloy, 1989; Wisco, 2009). Therefore, the self-blame that may increase depression vulnerability can become less salient by way of deflecting blame onto others (Rye et al., 2008). It is important to note, however, that this study's sample was drawn from North America. Since individualist North American culture fosters attributes such as independence and self-sufficiency, people who belong to this cultural context often tend to protect their self-esteem in times of hardship (Heine, Lehman, Markus, & Kitayama, 1999). One of the many ways to feel good is by deflecting blame onto others, which reflects the content of other-referent upward counterfactual thinking (Roese & Epstude, 2017).

The Philippines, on the other hand, is mainly a collectivist society (Church, 1987; Church et al., 2012; Hofstede, 1980). In an initial finding, Broomhall and Phillips (2018) found that frequent generation of other-referent upward counterfactuals significantly predicted higher self-reported scores in a depression assessment in a sample of university-educated Philippine residents. Given the abovementioned theoretical predictions (Roese & Epstude, 2017; Rye et al., 2008), this finding was unexpected and suggests that other-referent upward counterfactual thinking may not serve as a protective factor against depression in this cultural population. The current study explores whether collective harmony values may have contributed to this predictive relationship. This is because adherence to social norms may represent a restriction in achieving one's desired outcomes (Landman & Manis, 1992).

1.2. Collectivism and depression

Collectivism refers to the extent to which individuals perceive themselves as closely linked or interconnected with the people around them (Oyserman, 2017), and engage in behaviours that encourage interdependence among social group members (Hui & Triandis, 1986; Triandis, 1989). Within each society, individuals endorse collectivism traits in varying degrees on different collectivist attributes (Oyserman, Coon, & Kimmelmeier, 2002; Shulruf et al., 2011). According to Shulruf et al. (2011), collectivism can be exhibited in terms of two individual tendencies: *harmony* and *advice*. Maintaining harmony refers to the extent an individual performs standard behaviours specifically designed to keep peace and avoid conflicts in the social environment, whereas advice-seeking pertains to the help and assistance sought from group members (Shulruf, Hattie, & Dixon, 2007; Shulruf et al., 2011).

1.2.1. Advice in collectivism

Advice-seeking is viewed as beneficial in more collectivist (less individualist) and interdependent cultures. For example, compared to less collectivistic European-Americans, Russian residents tend to give more advice and solicit advice, and view advice-giving as an expression of social support (Chentsova-Dutton & Vaughn, 2012). Chinese people engage in advice-seeking behaviour to enhance their relationships more than European-Canadians (Ji et al., 2017) and are more likely than Americans to believe that solicited advice brings good outcomes to distressed individuals, including confidence, decreased stress, and fast recovery from personal hardships (Feng, 2015).

Most research about advice-seeking as a potential protective factor against negative psychological outcomes has employed general advice-seeking assessments, using samples from individualist populations (i.e., the United States). These studies found that seeking advice is positively associated with various forms of social support (Delaney, Turiano, & Strough, 2018), predicts low levels of negative affect (Curran, Totenhagen, & Serido, 2010), and may prevent internalising problems (e.g., Kochenderfer-Ladd, 2004), including depression (Sugimura, Rudolph, & Agoston, 2014). Evidence therefore suggests that *collectivist advice-seeking* as conceptualised by Shulruf et al. (2011) may also confer protection against depression given that it also characterises social assistance. However, to the best of our knowledge, advice as a specific collectivism attribute has not been investigated in relation to depression in an essentially collectivist social environment.

1.2.2. *Harmony in collectivism*

Conversely, fulfilling obligations to foster collective harmony is a duty (Ghorbani, Bing, Watson, Kristl Davison, & LeBreton, 2003) that can be viewed as a price to pay for the benefits of collectivism (Knyazev, Kuznetsova, Savostyanov, & Dorosheva, 2017). Individuals are expected to follow those who have positions of power and yield to the will of group members, further promoting group interests to the detriment of individual freedom (Conway, Sexton, & Tweed, 2006). Indeed, harmony maintenance has consequences for behaviour (Spanos, Vartanian, Herman, & Polivy, 2015; Wang & Keh, 2017). For example, maintaining harmony facilitates persuasion to purchase unwanted items in collectivist individuals (Wang & Keh, 2017).

The relationship between harmony and depression seems ambiguous. Some studies have indicated that harmony is associated with decreased depression (Chen, Chan, Bond, & Stewart, 2006; Kavikondala et al., 2016; Prigerson, Maciejewski, & Rosenheck, 1999; Smith et al., 2016; Yang, 2016), and may offer psychological protection against life stress that increases depression risk (Kavikondala et al., 2016). However, harmony maintenance may also result in individuals adapting to their social environment by sacrificing their goals and benefits (Lu et al., 2001; Sawaumi, Yamaguchi, Park, & Robinson, 2015), not expressing their personal needs and suffering in silence (Taylor et al., 2004), and concealing their status from other people for fear of being ostracised and rejected by their peers (Arnett & Sidanius, 2018). Accordingly, collective harmony has been associated with various negative cognitive and emotional outcomes, such as decreased authenticity, lower life satisfaction and stymied self-efficacy (Gavreliuc & Ciobotă, 2013)—all of which may increase susceptibility to depression (Bryan, Baker, & Tou, 2015; Riaz Ahmad, Yasien, & Ahmad, 2014; Wang & Peng, 2017). Thus, to the extent that harmony reflects restrictive societal norms, this collectivism domain may predict increased depressive symptoms.

1.3. *Collective harmony as moderator*

Collective harmony may also moderate the effect of other-referent upward counterfactuals on depression. In a study about responses to different imagery scenarios, Allen, de L. Horne, and Trinder (1996) found that participants who are high in social dependency (i.e., sociotrophy) reported more sadness and less control, not just because of social rejection but also to some extent due to achievement failure. Thus, a high focus on maintaining harmonious relationships by submissive behaviour could potentially prevent the achievement of desired outcomes, which may result in increased depression risk (e.g., Gilbert, Allan, & Trent, 1995).

If individuals strongly maintain harmony, then they would be more inclined to engage in other-referent upward counterfactual thinking in relation to the concessions they made for other people. They may think that better things could have come their way, and yet there is a pressing need to follow socially-sanctioned harmony norms. Such belief may induce helplessness over their circumstances and therefore could bring about depression (Seligman, 1975). In addition, research about social power has revealed that powerlessness is associated with more generation of other-referent upward counterfactuals (Scholl & Sassenberg, 2014; Study 1), and that powerless individuals are more predisposed to experience negative affect (Keltner, Gruenfeld, & Anderson, 2003).

In general, collectivism *per se* has been often regarded as a possible explanation for differences in counterfactual thinking tendencies (e.g., Hur, Roese, & Namkoong, 2009; Markus & Kitayama, 1991; Zou et al., 2009) and depression (e.g., Brougham & Haar, 2013; Du, Li, Lin, & Tam, 2015). However, investigations into the role of the harmony domain of collectivism, specifically, on the link between other-referent upward counterfactual thinking and depression is under-researched (Broomhall & Phillips, 2018). Thus, an important aim of the study is to determine if collective harmony moderates the link between other-referent upward counterfactual thinking and depression.

2. The current study

The current study aimed to replicate Broomhall and Phillips' (2018) finding of a significant positive association between other-referent upward counterfactual thinking and depressive symptoms in a university-educated Filipino sample and to confirm the presence of this effect in this cultural group. In addition, it aimed to explore whether collective harmony may determine when other-referent upward counterfactual thinking confers risk for depression.

Hypothesis 1: Other-referent upward counterfactual thinking will be positively associated with depression in this cultural sample.

Within the Philippine setting, fostering “smooth interpersonal relationships” is an important value (Lynch, 1973) and behaviours are influenced by motives to maintain harmonious relationships (Alampay & Jocson, 2011). Such strong desire to keep peace in the social environment may lead people to act against their own wishes (Lynch, 1973). It is also important to ensure that there is no loss of face or shame involved in such interactions (Pe-Pua & Protacio-Marcelino, 2000; Tuliao, Velasquez, Bello, & Pinson, 2016), thus making adjustments for others is common (Lynch, 1973). Since harmony maintenance has previously been found to be associated with negative cognitive and emotional outcomes (Gavreliuc & Ciobotă, 2013), we expected the collective harmony domain of collectivism to represent a depression vulnerability. Conversely, past research involving Filipino samples has documented that increased social support is protective against mental health problems (Tsai & Thompson, 2013) and may increase subjective well-being (Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008). Given that advice-seeking reflects a social support attribute in Filipinos that could mitigate stressful situations (Fernandez, 2012), we posited that the advice domain of collectivism would be related to depression in a manner that is protective. Thus:

Hypothesis 2: Collective harmony will be positively associated with depression, whereas advice will be negatively associated with depression.

Based on the notion that individuals who are high in harmony are more likely to put aside their personal needs and conform to the less desirable needs and actions of others, we made the following prediction:

Hypothesis 3: Collective harmony will moderate the relationship between other-referent upward counterfactual thinking and depression. Specifically, other-referent upward counterfactuals will be positively related to depression at high levels of collective harmony.

The current study also investigated past control perceptions as a potential covariate. Perceived past control pertains to the extent to which individuals assume they could have prevented an event from happening (Frazier et al., 2011), and therefore may be negatively associated with other-referent upward counterfactual thinking and depression.

3. Methods

3.1. Participants

Data were collected from a sample of university-educated Philippine residents. Six hundred participants completed the survey. However, data from two participants were excluded due to invalid answers to demographic questions, leaving a final sample of 598 (males = 31.8%; females = 68.2%). Participants identified themselves as current Philippine residents who had attended university or had obtained a university education. Majority of the participants were born in the Philippines (99.2%). The mean age of participants was 29.74 years ($SD = 10.27$; Range = 18–71). Majority of the participants had a Bachelors' degree (48.8%), while others reported that they have a Masters' degree (13.9%), a doctorate degree (2.7%), or some university education (34.6%). The participants' most commonly reported jobs were related to education (15.3%), business and finance (10%), health (5.4%), administrative work (4.2%), law and public service (3.5%), various forms of customer service (3.2%), information technology (3.0%), construction and design (2.5%), or other occupations (7.0%). There were also current students (17.1%), unemployed (20.8%) and retired (1.2%) participants, and those who did not provide information (2.7%).

3.2. Procedure

A social media invitation was posted on various Filipino Facebook pages, which explained the research aims of the current study and also included the online link to an anonymous survey (Qualtrics, 2018). Interested potential participants voluntarily clicked the online link which took them to a questionnaire containing a series of self-report measures. Participant screening was conducted using the custom validation option of Qualtrics to ensure that the target sample was obtained. Only individuals who indicated that they were 18 years or above, currently residing in the Philippines, and had commenced or completed a university qualification/s were permitted to complete the assessments. After finishing the survey, participants were also requested to recruit potential participants by sharing the survey link to their social media. This “snowballing” procedure is often used to reach potential participants belonging to cultural populations who may distrust researchers (Atkinson & Flint, 2001), and is often employed in studies involving Filipino respondents (e.g., David, 2008; Kessler & Ruland, 2006; Mendoza, Mordeno, Latkin, & Hall, 2017). Participants did not receive any compensation for completing the survey.

3.3. Materials

3.3.1. Depression symptoms

Depression symptoms were assessed by the 7-item depression subscale of the Hospital Anxiety and Depression Scale (HADS-D; Zigmond & Snaith, 1983). Participants were asked to rate the extent to which they experience each of the seven depression symptoms over the past week using a 4-point Likert scale with various response anchors [e.g., “I have lost interest in my appearance”; ranging from 0 (*I take just as much care as ever*) to 3 (*Definitely*)]. Total scores were calculated by adding item scores. The Cronbach's alpha for the HADS depression subscale was .71. Higher total scores correspond to greater depressive symptoms.

3.3.2. Other-referent upward counterfactual thinking

Participants completed the 4-item Other-Referent Upward Counterfactual Thinking subscale of the Counterfactual Thinking for the Negative Events Scale (CTNES; Rye et al., 2008). The Other-Referent Upward Counterfactual Thinking subscale assesses participants' propensity to imagine better alternatives to real events that could have been brought about by other people (e.g., “If only another person (or other people) would have acted differently, this situation would have never happened”). As per instruction of the CTNES, participants were asked to recall a recent negative life experience that reflects the “lost opportunity principle” (Beike, Markman, & Karadogan, 2009) to instigate counterfactual thinking. This negative life event led to an undesirable consequence that one cannot resolve at the moment, but could have been avoided while it was happening (for an extensive discussion, see Beike et al., 2009). Based on such recollection, participants rated each item of the Other-Referent Upward Counterfactual Thinking Subscale on a 5-point Likert scale, ranging from 1 (*Never*) to 5 (*Very Often*). The

Cronbach's alpha for this subscale was .85. Scores were summed, in which higher scores indicate greater frequency of entertaining other-referent upward counterfactual thoughts.

3.3.3. *Description of the negative event*

Participants were asked to classify the theme of the recalled negative event according to Roesse and Summerville's (2005) life domains. Participants were asked to choose one from several choices (e.g., education, career, romance, etc.).

3.3.4. *Collectivism domains: harmony and advice*

Participants' collective harmony and advice-seeking tendencies were assessed by the Auckland Individualism Collectivism Scale (AICS; Shulruf et al., 2007). The AICS collectivism assessment is composed of two subscales, reflecting the two domains of collectivism: the 4-item Harmony (e.g., "Even when I strongly disagree with my group members, I avoid an argument") and the 7-item Advice (e.g., "Before I make a major decision, I seek advice from people close to me"). On each item, participants were asked to indicate the frequency with which they adhere to a specific social norm on a scale of 1 (*Never or Almost Never*) to 6 (*Always*). Participants' ratings were summed for the two domains, representing individual heightened tendencies to maintain collective harmony in the social environment and to solicit advice from other people. Alphas for the Harmony and Advice subscales were .67 and .83, respectively. Past research has successfully administered the AICS in a Filipino sample (Bernardo, Lising, & Shulruf, 2013).

3.3.5. *Religiosity*

Participants' religiosity level was measured by the one-item religiosity assessment by Cukur, De Guzman, and Carlo (2004) in their research involving a Philippine sample, ("My religious beliefs are very important to me"). Participants rated this statement on a scale of 1 (*Disagree*) to 7 (*Agree*), in which a higher rating indicates greater religiosity.

3.3.6. *Past control*

Participants' retrospective control perceptions in relation to the recalled negative event were assessed by the 5-item Past Control subscale of the Perceived Control Over Stressful Events Scale (PCOSES; Frazier et al., 2011). Participants rated each item (e.g., "I could have done something to prevent this event from happening") on a scale of 1 (*Strongly Disagree*) to 4 (*Strongly Agree*). Scores were summed in which higher scores represent greater perceived retrospective control. The Cronbach's alpha for this measure in this sample was .68.

4. **Statistical analytical strategy**

The first two hypotheses of the study were tested by Pearson's correlations using SPSS 24. To determine if harmony would moderate the link between other-referent upward counterfactual thinking and depression, we employed the moderation procedure by Hayes (2013) using the SPSS macro PROCESS.

5. **Results**

5.1. **Descriptive data**

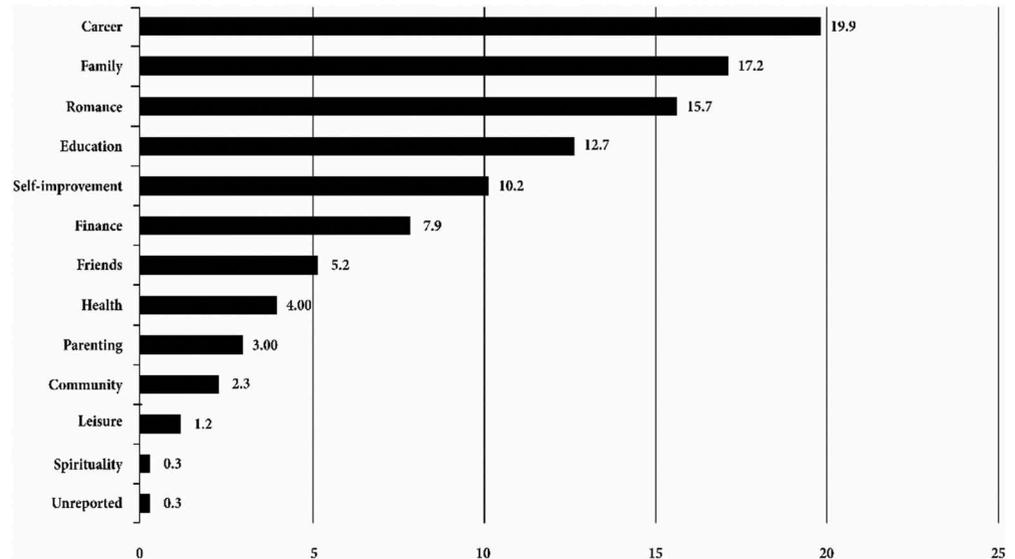
5.1.1. *Theme of the negative event*

The six most common themes that emerged were about career, family, romance, education, self-improvement and finance (Figure 1).

5.1.2. *Depression symptom severity*

According to the HADS depression symptom category (Zigmond & Snaith, 1983), in the current sample, 74.4% of the participants' total depression scores were within the normal range, 18.2% were in the moderately depressed category, and 7.4% were within the severely depressed category.

Figure 1. Percentage of negative events recalled across different life domains.



5.2. Correlations

Table 1 shows the Pearson's correlations, means, and standard deviations of the study variables. As expected, other-referent upward counterfactuals and collective harmony were positively associated with depression, and advice was negatively associated with depression. Past control perceptions did not correlate significantly with depression and other-referent upward counterfactual thinking; therefore, it was not used as a covariate in the succeeding analyses.

5.3. Regression analyses

5.3.1. Data screening and preparation

The regression residuals were initially non-normal. Given that the depression scores and age were positively skewed, they were transformed using the square root transformation formula. The religiosity scores were negatively skewed and were transformed using the reflect and logarithm transformation formula. Following the transformations, the regression standardised residuals for the regression analysis indicated that normality, heteroscedasticity and linearity assumptions were met. No multicollinearity issues or outliers were found.

5.3.2. Covariates

In testing the moderation model, collective advice, age, and religiosity were used as covariates in the main analyses given their significant associations with depression.

5.3.3. Prediction of depression by other-referent upward counterfactual thinking and harmony

Prior to entering the predictors in this regression model, predictor variables were mean centred and the two-way interaction term for other-referent upward counterfactual thinking and harmony was computed (ORU x Harmony). Table 2 shows the regression model. In the first step, the covariates collective advice, age, and religiosity were entered as covariates in predicting self-report depression scores, $F(3, 594) = 22.199, p < .001$, and explained 10.1% of the variance in depression. In the second step, other-referent upward counterfactual thinking (ORU) and collective harmony were entered as predictors of depression, and accounted for 13.9% of the variance in depression, $F(5, 592) = 19.149, p < .001$. In the third step, the two-way interaction terms ORU x Harmony was entered, $F(6, 591) = 16.795, p < .001$.

Table 1. Pearson's correlations, means, and standard deviations of the study variables

	1	2	3	4	5	6	7	8
1. Depression	1	.106**	.175**	-.101*	-.030	-.178**	-.242**	.000
2. ORU		1	.204**	.170**	-.058	.052	-.141**	-.025
3. Collective Harmony			1	.275**	.031	.084*	-.204**	.006
4. Collective Advice				1	.003	.236**	-.187**	-.019
5. Past Control					1	.068	-.021	-.012
6. Religiosity						1	.017	.113**
7. Age							1	.025
8. Gender								1
Mean	5.383	12.565	14.304	24.329	13.766	5.299	29.739	1.682
SD	3.409	4.144	3.750	6.860	3.219	1.902	10.274	.466

Note. ORU = Other-Referent Upward Counterfactual Thinking; Gender, Male = 1, Female = 2

* $p < .05$, ** $p < .01$

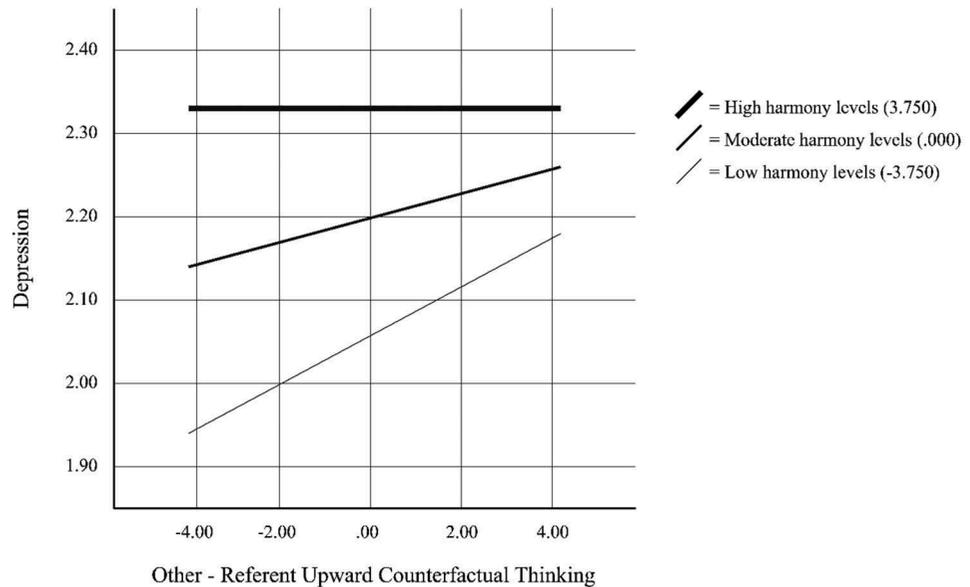
Table 2. Collective harmony as a moderator of the association between other-referent upward counterfactual thinking and depression

	R	R ²	ΔR ²	B	SE	β	t	95% C.I.	sr	r
Step 1	.318	.101	.101							
Collective Advice				-.011	.005	-.098	-2.413*	-.020 to -.002	-.094	-.069
Age				-.242	.034	-.280	-7.055***	-.309 to -.174	-.274	-.265
Religiosity				.324	.102	.127	3.183**	.124 to .523	.124	.155
Step 2	.373	.139	.038							
Collective Advice				-.017	.005	-.152	-3.686***	-.026 to -.008	-.141	-.069
Age				-.208	.034	-.242	-6.088***	-.275 to -.141	-.232	-.265
Religiosity				.340	.100	.133	3.408**	.144 to .536	.130	.155
ORU				.015	.007	.080	2.028*	.000 to .030	.077	.121
Collective Harmony				.037	.008	.178	4.364***	.020 to .054	.166	.193
Step 3	.382	.146	.006							
Collective Advice				-.018	.005	-.157	-3.832***	-.027 to -.009	-.146	-.069
Age				-.205	.034	-.237	-5.992***	-.272 to -.138	-.228	-.265
Religiosity				.346	.099	.136	3.484**	.151 to .542	.132	.155
ORU				.015	.007	.079	2.009*	.000 to .029	.076	.121
Collective Harmony				.038	.008	.182	4.483***	.021 to .054	.170	.193
ORU X Harmony				-.004	.002	-.081	-2.113*	-7.6e-3 to -3e-4	-.080	-.074

Note. ORU = Other-Referent Upward Counterfactual Thinking

*p < .05, **p < .01, ***p < .001

Figure 2. The relationship between other-referent upward counterfactual thinking and depression at levels of collective harmony.



The final model accounted for 14.6% of the variance in depression. After controlling for the effects of collective advice, age, and religiosity, other-referent upward counterfactuals ($B = .015$, $p = .045$) and collective harmony ($B = .038$, $p < .001$) were positively associated with depression. As hypothesised, the positive main effects of other-referent upward counterfactuals and collective harmony were qualified by a significant interaction (ORU x Harmony; $B = -.004$, $p = .035$). However, it only uniquely contributed an additional 0.64% of the variance in depression.

5.3.4. Probing interaction

We conducted a moderation analysis using the SPSS syntax PROCESS (Hayes, 2013) to probe the significant interaction between other-referent upward counterfactual thinking and collective harmony. Low, moderate, and high levels of collective harmony were assessed at one standard deviation below the mean, at the mean, and above the mean, respectively. Figure 2 displays the simple slopes showing the association between other-referent upward counterfactual thinking and depression at the three levels of collective harmony motives. Other-referent upward counterfactual thinking was positively related to depression at low ($B = .030$, $t = 2.929$, $p = .004$, 95% $CI = .010$ to $.049$) and moderate levels ($B = .015$, $t = 2.009$, $p = .045$, 95% $CI = .000$ to $.029$) of collective harmony, but not at high levels of collective harmony ($B = .000$, $t = .009$, $p = .993$, 95% $CI = -.020$ to $.020$). Individuals with high levels of collective harmony reported the highest levels of depression irrespective of their tendency to make other-referent upward counterfactuals.

6. Discussion

The current study successfully replicated Broomhall and Phillips (2018) finding of a small but significant positive association between other-referent upward counterfactual thinking and depression in a sample of university-educated Philippine residents. This finding corresponds to past results indicating that other-blame attributions are positively associated with depression (e.g., Garnefski & Kraaij, 2006; Martin & Dahlen, 2005), and also lends support to the notion that blaming others is linked to greater emotional disturbance (e.g., Matheson & Anisman, 2003; Tennen & Affleck, 1990). Indeed, more recent findings indicate that frequent other-referent upward counterfactual thinking is associated with greater intensity and experience of negative emotions, such as anger, irritation, and frustration (Allen et al., 2014; De Cremer & van Dijk, 2011). Such emotions are associated with increased depression (e.g., Abi-Habib & Luyten, 2013; Markova, 2018; Zajenowska, Jasielska, & Melonowska, 2019). Thus, our result contradicts the proposal that other-referent upward counterfactual thinking may regulate negative emotions by deflecting blame away from

the self (Roese & Epstude, 2017; Rye et al., 2008). The current study also found that harmony moderated the association between other-referent upward counterfactual thinking and depression in this cultural population, albeit a very small effect size was observed.

6.1. Collectivism domains predicting depression

Past research suggests that collectivism is generally beneficial for mental well-being (Brougham & Haar, 2013; Chiao & Blizinsky, 2010; Du et al., 2015), including potentially decreasing depression risk (Du et al., 2015; Way & Lieberman, 2010). However, we proposed that the collectivism domains of advice and harmony (Shulruf et al., 2007, 2011) could each be related to depression differently. As hypothesised, we found that advice significantly predicted low depression self-report scores, whereas harmony significantly predicted high depression self-report scores.

Since solicited advice reflects others' concern during difficult times (Morrow, 2006), individuals may feel supported, thus lessening their levels of stress (Cohen & Wills, 1985). The observed negative association between advice and depression corroborates past findings that seeking advice may serve as a buffer against depression (e.g., Sugimura et al., 2014), and is incompatible with previous findings that seeking advice may amplify distress because discussing problems with other people encourages rumination that enhances depression (Pearlin & Schooler, 1978; Ross & Mirowsky, 1989).

In the Philippine context, advice may reflect the pervasive Filipino value of “*pakikipagkapuwa*”, which pertains to showing concern and empathising with others, particularly those who are experiencing hardships (Enriquez, 1977). A possible explanation as to why seeking advice is found to be negatively related to depression in the current study is that advice is an aspect of social support (Fernandez, 2012), and that increased social support in general is associated with good mental health outcomes in Filipinos (Tsai & Thompson, 2013; Uchida et al., 2008). In addition, increased emotional support from the social environment also fosters self-esteem in Filipinos (Uchida et al., 2008), which could help minimise ruminative thinking that may lead to depressive episodes (Phillips & Hine, 2016).

Conversely, we found that the harmony domain of collectivism predicted greater depression symptoms. Our finding supports our assumption that collective harmony can represent a depression vulnerability because it is a restrictive attribute of collectivism that may prevent goal-achievement. One possible reason why collective harmony may predict increased depression is that giving up personally-important goals in deference to others may render its social support characteristic ineffective (Dinn & Caldwell-Harris, 2016). Indeed, other lines of research have demonstrated that the restrictive norms associated with collectivism and interdependence predict increased depression (e.g., Dinn & Caldwell-Harris, 2016; Hooper & DePuy, 2010; see also, Knyazev et al., 2017).

Within the Philippine context, harmony maintenance compels individuals to resolve their conflicts with group members (e.g., family) or give in to their desires, despite tense relationships, as an expression of acquiescence to the group (Mulder, 1994). Such harmony maintenance norms may therefore lead to emotional suppression given the constraints imposed on individuals (Markus & Kitayama, 1991). Emotional suppression involves harbouring negative emotions, and yet remaining superficially calm, amidst difficulties (Richards & Gross, 1999). The inhibition of negative emotions increases depression vulnerability (Knyazev et al., 2017) and also prolongs distress (Richards & Gross, 1999). Future research may benefit from investigating the extent to which emotional suppression influences the link between collective harmony and depression in this cultural sample.

6.2. Harmony as moderator

We posited that the positive relationship between other-referent upward counterfactual thinking and depression would be more pronounced in individuals who greatly engage in collective harmony behaviours, since this may lead them to pay greater heed to the views and actions of others

that may ultimately result in outcomes that are inconsistent with their own personal desires. Although we found that harmony is a significant moderator of the other-referent upward counterfactual thinking-depression link, the way harmony moderated this relationship ran counter to our prediction. High harmony motives were associated with the highest levels of depression at all levels of other-referent upward counterfactual thinking, and frequent generation of other-referent upward counterfactuals was only associated with depression amongst individuals with low and moderate levels of collective harmony.

It is important to note that this moderation effect explained only a small amount of variance in levels of depression in our sample, which suggests that its practical utility in the “real world” may be limited (Ferguson, 2009). Nevertheless, this compensatory interaction suggests that depression is lowest for individuals with low levels of both harmony and other-referent upward counterfactual thinking, and highest among individuals with high levels of harmony. The interaction suggests that generating other-referent upward counterfactuals is not associated with greater depression amongst individuals who are high in harmony because high levels of harmony, alone, are enough to confer risk for high levels of depression. Conversely, a combination of low harmony and low other-referent upward counterfactuals may be protective against depression for the abovementioned reasons. In sum, people with low harmony motives may be less likely to experience high levels of social pressure to conform and may feel free to entertain low levels of other-referent upward counterfactuals without experiencing a substantial social threat. Yet, as levels of other-referent upward counterfactuals increase, perceived social pressure arising from blaming others may also increase, leading to levels of depression that approach those reported by individuals with high levels of harmony. Thus, our result indicates that levels of depression are likely to be high when either levels of other-referent upward counterfactual thinking or harmony are high. There may be other factors that could influence depression for individuals who are high in collective harmony motives that could be investigated in future research.

6.3. Limitations and future research avenues

There are several limitations of the current study that need to be considered. First, although we found significant associations between depression and other-referent upward counterfactual thinking, harmony, and advice seeking, the effect sizes were small. Similarly, although we identified harmony as a moderator of the association between other-referent upward counterfactual thinking and depression, the small effect size observed indicates that its practical significance may be limited. We deemed it important to report this finding because withholding it may otherwise contribute to the “file-drawer effect” and consequent redundant future research (Rosenthal, 1979; Shadish, Zelinsky, Vevea, & Kratochwill, 2016). Future research is needed to replicate and further investigate the interaction of other-referent upward counterfactual thinking and harmony in predicting depression to determine whether it is of practical significance (Peeters, 2016).

Nevertheless, information about when other-referent upward counterfactual thinking may increase depression risk can be gleaned from the findings. That is, frequent generation of other-referent upward counterfactuals is linked to greater depressive symptoms when individuals demonstrate defiance toward collective harmony norms, and not when they highly adhere to such norms. Should another study replicate our findings, but with a larger effect size, it would be useful to highlight the importance of collective advice-seeking in psychotherapy for depression, as our result indicates that it is a protective attribute of collectivism.

The current study is also cross-sectional and correlational, and therefore causal relationships cannot be inferred. Future experimental research should investigate the proposed relationships to address questions of causation. We used a snowball sampling technique to expand the reach of our survey to the Philippine community, but this approach also may have made it susceptible to sampling bias (Mendoza et al., 2017). The sample also comprised university-educated Philippine residents to replicate a past finding of a significant positive association between other-referent upward counterfactual thinking and depression in this population (Broomhall & Phillips, 2018).

Hence, the current sample neither represents the entire university-educated Filipino sector nor the general Philippine population. Lastly, Filipino culture also differentiates social relationships between “outsiders” and “one-of-us” (Pe-Pua & Protacio-Marcelino, 2000). In future investigations, specifying the social group of the person who is the focus of blame in other-referent upward counterfactual thinking may elucidate the nuances of collective harmony’s moderating influence on depression.

7. Conclusion

In the current study, we assessed if the two domains of collectivism, that is, advice and harmony, may each have a different relationship with depression. We found that advice was negatively associated with depression, whereas harmony was positively associated with depression. Our findings are consistent with the view that seeking advice may protect against depression, whereas harmony may represent a depression vulnerability. In addition, we determined that other-referent upward counterfactual thinking was positively related to depression at low and moderate levels of collective harmony, but not at high levels of collective harmony. These findings suggest that possessing either high harmony values or high levels of other-referent upward counterfactual thinking may confer risk for depression. However, the observed main effects and the interaction effect were small, highlighting the need for replication.

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