



Psychosocial Risk Factors for Depression Among Married Muslim Mothers in Malaysia

Nor Ba'ayah Abdul Kadir¹  · Mark D. Griffiths²

Accepted: 24 November 2020 / Published online: 7 January 2021
© Springer Science+Business Media, LLC, part of Springer Nature 2021

Abstract

Although many previous studies have examined factors associated with depression, there has been a lack of studies examining the role of external shame and lack of emotion regulation. Therefore, the present study examined these potential risk factors alongside other risk factors in a group that may be more prone to depression (i.e., married Muslim mothers). Married Muslim mothers ($n = 971$) residing in the urban area of Kuala Lumpur (Malaysia) were surveyed. Using various psychometric instruments, the survey assessed psychiatric problems (including depression), insecure attachment styles, external shame, severe life events, emotional regulation, and vulnerable factors for depression. Results indicated that married Muslim mothers were more vulnerable to depression if they had high external shame, less cognitive reappraisal, had at least one severe life event, had low income, and were unemployed. External shame was the most significant risk factor for depression. In future studies and psychotherapy practice, external shame, cognitive reappraisal, severe life events, low income, and unemployment should be taken into account with regard to depression among this cohort.

Keywords Mental illness · Emotion regulation · Insecure attachment styles · Risk factors · Malaysian Muslim mothers

Introduction

Substantial evidence has accumulated over the past 40 years suggesting that among community samples of women, psychosocial risk factors are associated with depression (for a review,

✉ Nor Ba'ayah Abdul Kadir
aknbayah@ukm.edu.my

✉ Mark D. Griffiths
mark.griffiths@ntu.ac.uk

¹ Psychology Program, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

² Psychology Department, Nottingham Trent University, 50 Shakespeare Street, Nottingham NG1 4FQ, UK

see Bifulco et al. 2019; Brown and Harris 1978; Harris 2003). According to these studies, a number of factors have been associated with the onset of depression including (i) not being able to confide in a partner, (ii) unemployment, (iii) three or more young children under the age of 15 years living at home, and (iv) early maternal loss (death of mother). Other studies found that being female (Abdul Kadir and Bifulco 2011), being a single mother (Bjørnnes et al. 2018), and having poor income (Boyce et al. 1998; Kim and Um 2018), low education (Kuczmarski et al. 2015) unsupportive partners (Davey-Rothwell et al. 2017), stressful life events (Kendler and Gardner 2016), low self-esteem (Orth et al. 2016), and insecure attachment styles (Liao and Wei 2015) were significantly associated with depression. It should be noted that although many risk factors for depression have been identified, only a relatively small number have been examined together in any given study. Therefore, the knowledge of the contribution of simultaneous risk factors for depression is relatively scarce and is one of the novel aspects of the present study.

Risk Factors for Depression

The present study was guided by the model of psychosocial causation of depression developed by Brown and Harris (1978). According to this theory, vulnerability risk factors may be risk factors for depression, but the chance of depression is greatly increased by the presence of a provoking agent. In line with this theory, the present study proposes that vulnerability factors (e.g., negative evaluation of the self, negative interaction with spouse and child(ren), insecure attachment styles, emotion regulation), provoking agents (e.g., external shame, severe life events, and social environmental factors (e.g., low income, unemployment) are all risk factors for depression. Such provoking agents have been identified as the stressors preceding depression onset (Paykel 1991), and such experiences may produce some setback or hopelessness for some individuals (Harris 2003). Severe life events such as death of a family member or close friend, humiliation, entrapment, interpersonal conflict, and/or tension have been most closely associated with depression (Brown et al. 1995; Kendler et al. 2003; Slavich et al. 2011). Therefore, severe life events precipitate psychological disorders in the face of ongoing risk factors such as poor relationships, parenting stress, and social disadvantages. Severe life events in the present study were investigated in terms of their potential to arouse negative emotions and thus trigger the emotions required for depression onset. External shame has been argued to be the central feature of events that can lead to the onset of depression (Andrews et al. 2002; Kim et al. 2011). These psychosocial risk factors combined with other severe difficulties (e.g., low income, unemployment) are thought to be particularly salient.

Previous studies have reported that depression is significantly associated with consequent negative effects in all spheres of psychosocial functioning of the individuals, including self-esteem (Lee and Ko 2017; Wang et al. 2018), poor support (Brinker and Cheruvu 2017; Davey-Rothwell et al. 2017; Rashid and Mohd 2017), relationship quality (Roberson et al. 2018; Sharabi et al. 2016), and conflict with children (Ammerman et al. 2015; Muzik et al. 2017). Therefore, understanding the influence of psychosocial risk factors for depression has important theoretical and practical implications, and the model of psychosocial causation of depression needs to be able to account for the multiple risk factors associated with psychosocial factors and behaviors.

Based on research findings in the UK and elsewhere (Bifulco et al. 2002; Bifulco et al. 2006; Brown and Harris 1978; Kendler et al. 2002; Kessler 2003; Paykel 1991; Weissman and Olfson 1995; Wallace et al. 2002), depression has been found to be associated with sociodemographic, social, and psychological risk factors. Although these studies have

established that socioeconomic and psychosocial risk factors contribute to depression, how much these factors contribute to depression is still unclear. For instance, studies have shown that women are more vulnerable to experiencing depression than that of men (Girgus and Yang 2015; Salk et al. 2017) particularly among single mothers (Abdul Kadir and Bifulco 2011). However, married mothers have also been reported to experience depression (Maideen et al. 2014). Evidence has also shown that married women with depression are more prone to relapse into depression (Farb et al. 2015) and experience a variety of negative outcomes such as marital discord and difficulties in relationships with their children and spouse (Fisher et al. 2015). Other studies have reported that married mothers are more likely to develop depression due to economic hardship, parenting stress (i.e., the difficulty that mothers experience in parenting), and poor physical health (Manuel et al. 2012).

Attachment Style and Depression

For the past 30 years, numerous studies have extended Bowlby and Ainsworth's research work (Bowlby 1969; Ainsworth et al. 1978) on the infant-caregiver relationship in times of crisis to the study of adult attachment styles and romantic love (Bartholomew and Horowitz 1991; Hazan and Shaver 1987) as well as psychopathology (Boyda et al. 2018; Kobak and Bosmans 2019). The basic attachment styles are secure and insecure. Insecure attachment styles can be categorized into two groups: avoidance and anxious/anxious ambivalent. A secure attachment style denotes a positive model of self and others, with low levels of both anxiety and avoidance. A preoccupied attachment style denotes a negative model of self and a positive model of others, with low avoidance and high anxiety. A dismissing attachment style denotes a positive model of self and a negative model of others, with high avoidance and low anxiety. A fearful attachment style denotes a negative model of self and other and with high avoidance and anxiety and low emotion regulation (Bartholomew and Horowitz 1991; Mikulincer and Shaver 2012). The anxious attachment style has been found to be the most related to depression (Abdul Kadir and Bifulco 2013; Dark-Freudeman et al. 2020; Ehrenberg et al. 2012; Ikeda et al. 2014; Jenkins-Guarnieri et al. 2012; Monti and Rudolph 2014; Ringer et al. 2014; Spence et al. 2020). Jinyao et al. (2012) found that those with a fearful attachment style but not avoidant attachment reported high levels of depressive symptoms. In a clinical sample, depressed mothers were found to report preoccupied and fearful attachment (Wilkinson and Mulcahy 2010) and a dual/disorganized attachment style has been found more often among women with a lifetime depression than those women of the never depressed (Nonnenmacher et al. 2016). As far as the authors are aware, no previous study has examined the relationship between lack of autonomy, avoidant-dismissive attachment, anxious-dependent attachment, and ambivalent attachment and depression among married Muslim women.

Shame and Depression

Shame may include a temporary emotional reaction (state shame) or a shameful predisposition (trait shame or shame-proneness). The present study focuses on external shame in Asian culture. To some extent, what people think is more important to them; therefore, this may lead to a negative impact on their emotional well-being (Yakeley 2018). External shame refers to the perception of being evaluated by others as inferior, defective, or unattractive (Gilbert

1998); therefore, external shame has also been associated with an increased risk of psychopathology, particularly depression (Ferreira et al. 2016; Gilbert 2000; Kim et al. 2011; Wood and Irons 2016). A study by Matos and Pinto-Gouveia (2014) among 230 participants from the general community population suggested that shameful experiences with others and with attachment figures (e.g., mother, father) might be differentially associated with shame and psychopathology. Shameful memories involving others were significantly associated with external shame (the perception of negative judgments about the self in the mind of others) while shameful memories involving attachment figures were significantly associated with depression. Further analysis showed that combined external shame and shameful traumatic memory with an attachment figure significantly contributed to depression. More specifically, research has demonstrated that shame experiences are central to individuals' life stories and that identity has an indirect effect on depression, through experiential avoidance (Carvalho et al. 2015). Most studies have examined shame in the context of memory recall concerning attachment figures, but few have studied shame as an additional factor for depression. Therefore, the present study fills this research gap.

Emotion Regulation and Depression

Difficulties in emotion regulation have also been associated with depression (Aldao et al. 2010; Dryman and Heimberg 2018; Joormann and Stanton 2016). Previous research has shown that cognitive reappraisal is negatively associated with depression but not expressive suppression (D'Avanzato et al. 2013). Berking et al. (2014) assessed emotion regulation and depression longitudinally. In a 5-year follow-up after a baseline assessment, they found that deficits in emotion regulation increased negative affect and that this emotional dysfunction reduced positive affect and eventually led to depression. Another study by Troy et al. (2013) examined the ability to use cognitive reappraisal, stress severity, and stress controllability on depression symptoms. It was hypothesized that cognitive reappraisal ability may be highly adaptive in the context of uncontrollable stress and less useful (or even maladaptive) in the context of controllable stress. Results showed that in the context of high stress controllability and high stress severity, greater cognitive reappraisal ability was associated with significantly higher levels of depression, confirming a positive association between cognitive reappraisal ability and depression.

Severe Life Events and Depression

In relating depression with risk factors and severe life events, studies have shown that risk factors and severe life events are significantly associated with depression (Bifulco et al. 2002). Consistent with previous studies, Abdul Kadir and Bifulco (2011) found that severe life events and negative evaluation of the self among married mothers were high-risk factors for depression while risk factors for single mothers were severe life events, lack of social support, and conflict with children. Depression was also associated with poverty and life stress (e.g., marriage, separation, divorce, widowhood, death of a loved one, child adoption, retirement, job loss, serious illness, or injury). Among a population of sub-Saharan Africans (in 14 rural districts of Uganda), Kinyanda et al. (2011) found that risk factors significantly associated with depression were ecological factors (e.g., civil conflict, state of health services, socioeconomic

development), age (> 35 years), poverty, and deprivation (e.g., less educated, unemployment, broken family, poor socioeconomic status). The study also found that the loss of parents (e.g., death of a father among females and the death of a mother among males) increased the risk of depression.

Given this background, the present study investigated the psychosocial risk factors for depression among married Muslim mothers with children and living in the inner city of Kuala Lumpur, Malaysia. Kuala Lumpur was selected as the location of the study due to previous research reporting that living urban areas is one of the risk factors for depression (Brown and Harris 1978; Romans et al. 2011). The present study extends that of previous studies by examining the role of external shame and emotion regulation as additional contributory risk factors for depression as well as including factors previously examined (e.g., severe life events, adult attachment style, negative evaluation of the self, negative interaction with partner or child(ren), and lack of a support figure). Married mothers with children were chosen as the target population in the present study because other studies have shown that some of these mothers experience unsupportive relationship (Ahmadzad-Asl et al. 2016; Abdul Kadir and Bifulco 2017; Park et al. 2017) that may impact their emotional well-being (Davey-Rothwell et al. 2017).

The Present Study

The present study focused on the negative evaluation of the self, negative interaction with children and spouse, insecure attachment styles, external shame, severe life events, and emotion regulation as risk factors associated with symptoms of depression. Previous studies have not focused on external shame and emotion regulation (Abdul Kadir and Bifulco 2011, 2013, 2017); therefore, the present study examined these potential risk factors alongside other risk factors. Married mothers were chosen in this present study for two reasons. First, previous studies have shown that the prevalence of depression among married mothers in Malaysia is as high as 39.5% (Abdul Kadir and Bifulco 2011). Second, depression is associated with socioeconomic factors among mothers (Druss et al. 2000). Based on previous research suggesting that psychosocial risk factors are associated with depression (Abdul Kadir and Bifulco 2011, 2013; Bifulco et al. 2019; Boyce et al. 1998; Brown and Harris 1978; Kessler 2003), it was hypothesized that negative evaluation of the self, negative interaction with spouse and child(ren), insecure attachment styles, external shame, severe life events, and emotion regulation would all have a significant relationship with depression.

Method

Design and Participants

A cross-sectional survey was utilized because it was the most time-efficient method to collect data from a relatively large cohort of the target population. The criteria for participation in the present study were being Muslim, married, at least one child below 18 years old living at home, living in Kuala Lumpur, Malaysia, and being aged between 18 and 60 years. Overall, the sample comprised 996 participants aged between 18 and 60 years old (mean age 36.5 years old, SD = 10.97). Overall, the sample consisted primarily of Malays (94.1%; $n = 937$) with the remaining participants identifying themselves as Chinese (0.4%; $n = 4$), Indian (0.1%; $n = 1$), or other

(indigenous people; 5.2%; $n = 52$). Just over half of the mothers worked (54.5%; $n = 543$), and the remaining participants were full-time housewives. The mean monthly income was categorized as low (equivalent to \$190.17 [US]) when compared with mean national income (\$962.29 [US]) and which was below the official poverty line (Chong and Khong 2018). No information is available on participants who did not complete all the sociodemographic questions.

Measures

The General Health Questionnaire (GHQ-30; Goldberg 1978) is a self-report scale that assesses minor psychiatric symptoms and is most frequently used to assess mental health among general populations. The GHQ-30 has been used widely to assess depressive symptoms (e.g., Aalto et al. 2012; Ozdemir and Rezaki 2007; Singh-Manoux et al. 2017). The GHQ-30 has five psychological constructs that align with diagnostic criteria for depression in the latest (fifth) edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association 2013). Although the GHQ is best considered to be a measure of depressive symptoms, it should not be equated with clinically diagnosed depression. Also, GHQ has been recommended for non-clinical and non-psychiatric in-patient use because it includes elements of depression and suicidal behavior, agitation, mental and psychophysical stress, and fatigue (Bifulco et al. 2019; Hobi et al. 1989; Sun et al. 2012; Takiguchi et al. 2016).

The GHQ-30 was used to assess depressive symptoms in the past 12 months (e.g., “felt that life is entirely hopeless”). Each item is rated on a four-point Likert scale (“better than usual,” “same as usual,” “less than usual,” and “much less than usual,” which were scored as 0, 1, 2, and 3, respectively). The reliability of the GHQ-30 in the present study was excellent (Cronbach’s $\alpha = .90$).

The shortened Vulnerable Attachment Style Questionnaire (VASQ; Bifulco et al. 2003) comprises 14 items (Kupeli et al. 2015) and was used to assess insecure attachment styles. Scale items are responded to on a five-point Likert scale (ranging from “strongly agree” to “strongly disagree”). Scale attachment items to relate to lack of autonomy (e.g., “I rely on others to help me make decisions”), avoidant-dismissive attachment (e.g., “I worry about things happening to close family and friends”), anxious-dependent attachment (e.g., “I feel uncomfortable when people get too close to me”), and ambivalent attachment (e.g., “I often get into arguments”). The reliability of the VASQ in the present study was acceptable (Cronbach’s $\alpha = .65$).

The Other As Shamer Scale (OAS) assesses external shame (Goss et al. 1994) and comprises 18 items (e.g., “Other people see me as somehow defective as a person”) rated on a five-point Likert scale according to the frequency of evaluations about how others judge the self (0 = never to 4 = almost always). The reliability of the OAS in the present study was excellent (Cronbach’s $\alpha = .92$).

The Recent Life Events Questionnaire (RLEQ; Brugha and Cragg 1990) assesses severe life events based on the List of Threatening Experiences developed by Brugha et al. (1985). It assesses severe life events over the past year to self and close others and whether they are currently having an impact. Twenty-one items assess life events in several categories which are summed for a total score. Only items assessing the presence of a severe life event were included (e.g., “Have any of your immediate family died?”). Scale items are assessed a binary scale (i.e., “yes” or “no”). The reliability of the RLEQ in the present study was good (Cronbach’s $\alpha = .85$).

The Emotion Regulation Questionnaire (ERQ; Gross and John 2003) was used to assess individual differences in the habitual use of two emotion regulation strategies (i.e., cognitive

reappraisal and expressive suppression). It assesses two indices of emotion regulation comprising cognitive reappraisal (e.g., “When I want to feel more positive emotion (such as joy or amusement), I change what I’m thinking about”) and expressive suppression (e.g., “I control my emotions by not expressing them”). Scale items are assessed a seven-point Likert scale ranging from “strongly disagree” to “strongly agree.” The reliability of the ERQ in the present study was good (Cronbach’s $\alpha = .78$).

The Vulnerability to Depression Questionnaire (VDQ; Moran et al. 2001) was used to assess psychosocial vulnerability. It assesses two indices, namely negative elements in core relationships which include negative interaction with spouse (e.g., “Are you concerned that you are not as good a partner as you would like to be”), negative interaction with child(ren) (e.g., “Are you as good a mother as you would like to be”), and lack of very close other support (e.g., “How often do you see this person?”). The second index of negative evaluation of the self is one that comprises 10 items (e.g., “Are you concerned that you are less efficient than you like to be?”). Scale items are assessed a seven-point Likert scale ranging from “strongly disagree” to “strongly agree”. The reliability of the VDQ in the present study was good (Cronbach’s $\alpha = .75$).

Translation of the Self-report Measures

The guidelines for the process of cross-cultural adaption of self-reported measures were followed (Beaton et al. 2000). All scales in the original English were translated into the Malay language using simple, clear, and concise and non-technical language as much as possible and then translated back by a different person to ensure equivalence. Any expression that might be considered offensive or too intrusive was avoided, and the conceptual meaning of a word or phrase was utilized, rather than a word-for-word translation. The original translations were undertaken by native Malay speakers, and then back-translated by professional independent translators whose first language was Malay, but had no prior knowledge of the scales. Discrepancies were discussed with a group of subject matter experts and wording changed on disputed items and back-translated until a satisfactory version was achieved. Then, a pilot study was conducted among 30 married mothers to examine if the items were equivalent in an applied situation. The final version then was then utilized in the present study.

Procedure

The present study was conducted in public housing programs of the Federal Territory of Kuala Lumpur. A total of seven public housing areas under the City Hall of Kuala Lumpur were approached. Invitation letters were sent to seven heads of the communities, of which five responded. A phone call was made to all five heads of the communities. The research team used the door-to-door technique to approach all participants (Hazel and Clark 2013; Hillier et al. 2014). The participants took 30–45 min to complete the questions themselves. Of 1200 participants approached, a total of 204 declined to participate in the study (17%).

Ethics

The investigators obtained permission and clearance from the Kuala Lumpur City Hall to conduct the research as well as the institutional ethics committee. Standardized ethical guidelines for conducting empirical research were adhered to (World Medical Association

2001; Vanclay et al. 2013), and all the participants were required to provide written informed consent and all participants were guaranteed confidentiality and anonymity.

Statistical Analyses

Statistical analyses were performed using SPSS version 26 (SSPS Inc., Chicago, IL). Descriptive statistics including means and standard deviations were used. Inter-correlation analyses were carried out to examine the association between external shame, severe life events, avoidant-dismissive attachment, ambivalent attachment, lack of autonomy, anxious dependent attachment, negative interaction with the spouse, negative interaction with child(ren), negative evaluation of the self, expressive suppression, cognitive reappraisal, lack of social support, low income, unemployment, and depression. Multiple regression analysis was carried out to further explore psychosocial risk factors for depression among married Muslim mothers.

Results

Correlation Analyses

The means and standard deviations for all variables are presented in Table 1. A complete correlation matrix of all variables studied is presented in Table 1. Findings demonstrated that most of the variables being studied were associated with each other. More specifically, ambivalent attachment ($r = .14, p < .01$), severe life events ($r = .33, p < .01$), and external shame ($r = .48, p < .01$) were positively associated with depression while anxious dependent attachment ($r = -.09, p < .01$), cognitive reappraisal ($r = -.19, p < .01$), and expressive suppression ($r = -.11, p < .01$) were negatively associated with depression.

Multiple Regression Analyses

Linear regression analyses were performed to determine the influence of psychosocial risk factors on depression, including the total score of GHQ-30 as the dependent variable, with significant risk factors to depression (ambivalent attachment, anxious dependent attachment, severe life events, cognitive reappraisal, expressive suppression, external shame, low income, and unemployment) as independent variables.

Before running regression analysis, several assumptions were made such as the value of bivariate correlations being less than 1, variance inflation factor (VIF) less than 5, and case-wise diagnostics for outliers less than 3. Consequently, a total of 971 cases were analyzed. Table 2 shows the results of the linear regression analysis for the total sample of married Muslim mothers. Results showed that depression was significantly associated with increasing in external shame ($\beta = .37, p < .001$) and severe life events ($\beta = .18, p < .001$), less cognitive reappraisal ($\beta = -.13, p < .001$), unemployment ($\beta = -.12, p < .002$), and low income ($\beta = -.10, p < .008$). This model identified external shame as making the main contribution in explaining differences in married Muslim mothers' depression. These factors accounted for 32% of the variance in depression ($\Delta R^2 = .32; F_{(8, 962)} = 59.29, p < .001$).

Table 1 Correlation coefficient among the study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Means	SD
1. Avoidant-dismissive attachment	-															15.62	3.07
2. Ambivalent attachment	.31**	-														7.67	2.29
3. Lack of autonomy	.20**	.24**	-													8.93	1.93
4. Anxious dependent attachment	.13**	-.11**	.12**	-												11.27	2.61
5. Severe life events	.11**	.16**	.06	-.09*	-											4.90	4.41
6. Negative evaluation of the self	.07*	.05	.11**	.12**	.03	-										40.46	8.06
7. Negative interaction with child/children	.13**	.16**	.16**	.09*	.00	.25**	-									15.90	4.71
8. Negative interaction with spouse	.10**	.13**	.11**	.13**	.02	.35**	.42**	-								21.03	4.84
9. Lack of true very close other support	.01	-.13**	-.05	.13**	.06	-.01	.00	.06	-							10.56	10.93
10. Cognitive reappraisal	.08*	-.17**	-.05	.32**	-.07*	.11**	.05	.19**	.13**	-						20.51	3.72
11. Expressive suppression	.16**	-.01	.06	.16**	-.10**	-.05	.00	.12**	.02	.43**	-					13.00	3.00
12. External shame	.06	-.18**	.08*	-.04	.30**	.02	.04	.03	.09**	-.10**	-.05	-				17.47	11.70
13. Depression	-.03	.14**	.04	-.09**	.33**	-.04	-.03	-.05	.03	-.19**	-.11**	.48**	-			15.62	3.07
14. Low income	-.00	.03	.07*	-.04	-.11**	.16**	-.02	-.01	.03	.01	.04	-.16**	-.28**	-		791.02	693.04
15. Unemployment	.03	.03	.05	-.04	-.07*	.11**	-.03	-.02	.04	-.02	-.00	-.15**	-.26**	.72**	-	.54	.50

* $p < .05$; ** $p < .01$

Discussion

The primary goal of the present study was to examine the association between various psychosocial risk factors (external shame, severe life events, avoidant-dismissive attachment, ambivalent attachment, lack of autonomy, anxious dependent attachment, negative interaction with the spouse, negative interaction with child(ren), negative evaluation of the self, expressive suppression, cognitive reappraisal, lack of social support), low income, unemployment, and depression among married Muslim mothers. Of the 14 psychosocial risk factors examined, the results demonstrated that the presence of severe life events followed closely those obtained in a previous community-based study in Malaysia (Abdul Kadir and Bifulco 2011). All hypotheses were confirmed except for negative interaction in a close relationship (negative interaction with spouse/child(ren), lack of social support, negative interaction of the self), three types of attachment styles (avoidant-dismissive attachment, lack of autonomy, anxious dependent attachment), expressive suppression, and the fact that the majority of married mothers had both cognitive reappraisal, severe life events, low income, and unemployment.

The findings in the present study indicate that external shame was the strongest risk factor for depression. This finding is consistent with other findings (Abdul Kadir and Bifulco 2017). In relation to Asian culture as a collective society, external shame is suggested to be a potential risk factor for depression among married mothers with children due to Malaysian society's expectation and social stigma (Collins and Bahar 2000). Malaysian mothers are expected to be responsible for their children's education, uphold traditional societal values, and act according to their gender roles (Abdullah et al. 2008; Noor and Mahudin 2016; Noor 1999). Although most women in Malaysia are highly educated, they are still viewed as a "daughter," "mother," and/or "wife" who are responsible for the care of the household and the protection of family members (Hirschman 2016; Noor 1999). These factors may cause married mothers to feel ashamed and stressed if they are unable to perform well in relation to traditional gender roles; thus, this may affect their emotional and psychological well-being, consequently leading to depression among some individuals (Leupp 2017; Maji 2018).

As described in other studies (Berking et al. 2014; Haga et al. 2009), the importance of cognitive reappraisal was found. In the present study, cognitive reappraisal was negatively associated with depression. This indicates that depression may be associated with an infrequent use of a response-focused strategy. For instance, the married Muslim mothers in this present study may not know precisely how they feel, and not know how to deal with the situations to reinterpret stress (e.g., severe life events), resulting in increased depression. This finding is

Table 2 Multiple linear regression between the independent variables with depression as an outcome ($n = 971$)

Independent variables	Standard beta	<i>t</i>	95% CI	
Cognitive reappraisal	-.13***	-4.22	-.50	-.18
Expressive suppression	.01	.26	-.16	.21
External shame	.37***	13.07	.26	.35
Ambivalent attachment	.03	.95	-.12	.34
Anxious dependent attachment	-.03	-.93	-.30	.11
Severe life events	.18***	6.59	.29	.53
Unemployment	-.12***	-3.24	-3.91	-.96
Low income	-.10***	-2.71	-.00	.000

$\Delta R^2 = .32$; $F_{(8, 962)} = 59.29$, $p < .001$

*** $p < .001$

consistent with other studies that an infrequent use of cognitive reappraisal is significantly associated with depressive symptoms (Berking et al. 2014; Ehring et al. 2010; Haga et al. 2009) particularly in controllability of high-stress environments (Dryman and Heimberg 2018). The married Muslim mothers in this present study are likely to have gone through a lot of bitter life experiences. There is a high probability that they do not want to reinterpret or reappraise what has happened or is currently happening and instead just leave it to “fate.” Therefore, those married Muslim mothers who use less regular cognitive reappraisal may experience a lack of confidence in their ability to manage their emotions and therefore have less control over their lives. The findings may be also related to collectivistic orientation in East Asian culture that emphasizes maintaining group harmony by not imposing their perception or interpretation (Markus and Kitayama 1991), so infrequent use of cognitive reappraisal becomes one of their strategies to maintain their social interpersonal relationships but may also lead to depression.

The present study also found that severe life events were positively associated with depression. As expected, the finding suggests that severe life events can have a large contribution to depression. The finding also suggests that depression was only precipitated by severe events typically concerned with personal relationships (e.g., death of a loved one, separation, divorce), external events that may have affected physical well-being (e.g., fire, disaster, accidents), and/or entrapment in difficult relationships (e.g., abuse, conflict) among married mothers (Kendler and Gardner 2016; Tennant 2002). Relating this to the model of psychosocial causation of depression (Brown and Harris 1978), married Muslim mothers in the present study were unable to respond well to specific situations such as an interpersonal conflict that had an adverse impact on their sense of emotional well-being. Asian married Muslim mothers with children are bounded by cultural expectations (Hussain and Cochrane 2002; Nurbaeti et al. 2019). For instance, they are prohibited to share their personal problems with relatives, peers, or others. They are not allowed to talk openly about their emotions if there is an interpersonal conflict or experience of social stress (Karasz et al. 2019; Yeoh et al. 2017). Those who experienced more than one severe life event might lose their hope, feel meaningless, and have biased beliefs about the future (Losiak et al. 2019). Consequently, this may increase their depression.

Low income and unemployment contributed to depression. This result is in line with the study done by Maideen et al. (2014) that 11.1% of those with serious financial problems had depression. Clearly, income and employment underpin basic necessities such as food, shelter, clothing, transportation, and medical costs. Other studies in India (Mathias et al. 2015), the USA (Pulgar et al. 2016), and the UK (Aschan et al. 2013) also reported a significant relationship between socioeconomic risk factors and depression. Therefore, economic disadvantage and adversity appear to be established as risk factors in relation to depression. In the present study, married mothers who lived in low socioeconomic areas were unemployed, had low income, and experienced financial hardship were significantly more likely to experience depression. Consequently, these socioeconomic risk factors are important indicators of depression. Relating depression and unemployment, Frese and Mohr (1987) asserted that unemployment might lead to psychological problems such as reduced hope as well as increased financial problems. In contrast, a previous study of mothers in Malaysia reported that low-income and unemployment did not contribute to depression (Abdul Kadir and Bifulco 2011). The differences in these findings may be due to the present study comprising married mothers only from one location in Kuala Lumpur and increases in the cost of living. In addition, in Kuala Lumpur, the provisional estimates of a living wage for

those couples with two children and had less income than \$1550.00 (US) a month might not meet the minimum living standard (Chong and Khong 2018), and this might be a contributory factor for depression.

Another important finding involves the fact that several factors were not related to depression. Ambivalent attachment, avoidant-dismissive attachment, lack of autonomy, anxious dependent attachment, expressive suppression, negative evaluation of the self, negative interaction with partner and children, and lack of any very close other support of other individuals had no significant association with depression. In explaining these results, it is important to remember that the likelihood of identifying mothers with depression in community samples is small on the basis of national norms. To the present authors' knowledge, there are only two previous community-based studies that have examined vulnerability to depression among mothers in Malaysia (i.e., Abdul Kadir and Bifulco 2011, 2013). In these studies, negative evaluation of the self, negative interaction with spouse, negative interaction with child(ren), lack of very close support with others, and insecure attachment styles were significantly associated with depression. The inconsistency of the results reported by Bifulco et al. (1998) and Abdul Kadir and Bifulco (2011, 2013) and the present study may be attributable to differences between marital status, clinical samples, and community samples.

Some limitations of this study should also be noted when interpreting the findings. First, caution needs to be taken when generalizing findings of this study to diverse populations in Malaysia because only a few participants were from other ethnic populations. Different cultures may have unique adult attachments, emotional regulation, and depressive symptoms. This can be explained in terms of the words that commonly used in Western literature differ from the Malay culture when defining depression. For example, individuals from Malaysia frequently use the word "feeling sad" instead of "depressed" (Mohan et al. 2016). Second, the present study was based on correlational research design; therefore, no causal relationships can be determined. Third, the present findings are based on self-report data that are subject to well-known biases such as social desirability bias and recall bias. Finally, all the participants were married mothers which create a gender bias in the choice of sample. Such a sample (married mothers only) has little or no relevance to single mothers' lives or men's lives. Thus, generalization to other samples is restricted.

Although this present study acknowledges that research design does not permit the establishing causal relationships, this study is nevertheless the first to demonstrate the influences of at least five risk factors in influencing depression. Therefore, the present study suggests that when external shame, cognitive reappraisal, and expressive suppression are added into the depression model, other risk factors were not associated with depression. However, severe life events consistently added to the depression model (Keser et al. 2020; Tibubos et al. 2020). External shame was the most significant risk factor for depression. Severe life events, low income, unemployment, and an infrequent use of cognitive reappraisal also emerged as significant predictors of depression. Therefore, preventing risk factors in the first place can be helpful in promoting mental health at the community and individual levels. Findings of the present study can be used by other researchers who are interested in studying mental illness in relation to psychosocial risk factors. These risk factors are important because findings of the present study may guide those working in the professional mental health field to focus more on depression screening, and early identification of depression risk may increase the effectiveness of intervention programs particularly for married Muslim mothers with young children.

Funding This research work was supported by the Universiti Kebangsaan Malaysia (research grant code: GGPM-2011-059).

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All the procedures carried out in the present study were in accordance with the Helsinki declaration and with the approval of the research team's institutional research committee. All participants were assured that their data were anonymous and confidential and that they could withdraw their participation at any time.

Informed Consent Informed consent was obtained from all participants.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

- Aalto, A. M., Elovainio, M., Kivimäki, M., Uutela, A., & Pirkola, S. (2012). The Beck Depression Inventory and General Health Questionnaire as measures of depression in the general population: A validation study using the Composite International Diagnostic Interview as the gold standard. *Psychiatry Research*, *197*(1–2), 163–171.
- Abdullah, K., Noor, N. M., & Wok, S. (2008). The perceptions of women's roles and progress: A study of Malay women. *Social Indicators Research*, *89*(3), 439–455.
- Abdul Kadir, N. B., & Bifulco, A. (2011). Vulnerability, life events and depression amongst Moslem Malaysian women: Comparing those married and those divorced or separated. *Social Psychiatry and Psychiatric Epidemiology*, *46*(9), 853–862.
- Abdul Kadir, N. B., & Bifulco, A. (2013). Insecure attachment style as a vulnerability factor for depression: Recent findings in a community-based study of Malay single and married mothers. *Psychiatry Research*, *210*(3), 919–924.
- Abdul Kadir, N. B., & Bifulco, A. (2017). Exploring disorganized attachment style among Malay mothers in Malaysia: A study using the Attachment Style Interview. *Social Work in Mental Health*, *15*(4), 397–418.
- Ahmadzad-Asl, M., Davoudi, F., Zarei, N., Mohammad-Sadeghi, H., & Rasouljan, M. (2016). Domestic violence against women as a risk factor for depressive and anxiety disorders: Findings from domestic violence household survey in Tehran, Iran. *Archives of Women's Mental Health*, *19*(5), 861–869.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale: Erlbaum.
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*(2), 217–237.
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (fifth ed.). Arlington, VA: American Psychiatric Publishing.
- Ammerman, R. T., Altaye, M., Putnam, F. W., Teeters, A. R., Zou, Y., & Van Ginkel, J. B. (2015). Depression improvement and parenting in low-income mothers in home visiting. *Archives of Women's Mental Health*, *18*(3), 555–563.
- Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology*, *41*(1), 29–42.
- Aschan, L., Goodwin, L., Cross, S., Moran, P., Hotopf, M., & Hatch, S. L. (2013). Suicidal behaviours in South East London: Prevalence, risk factors and the role of socio-economic status. *Journal of Affective Disorders*, *150*(2), 441–449.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*(2), 226–244.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, *25*(24), 3186–3191.

- Berking, M., Wirtz, C. M., Svaldi, J., & Hofmann, S. G. (2014). Emotion regulation predicts symptoms of depression over five years. *Behaviour Research and Therapy*, 57, 13–20.
- Bifulco, A., Brown, G. W., Moran, P., Ball, C., & Campbell, C. (1998). Predicting depression in women: The role of past and present vulnerability. *Psychological Medicine*, 28(1), 39–50.
- Bifulco, A., Moran, P. M., Ball, C., & Bernazzani, O. (2002). Adult attachment style. I: Its relationship to clinical depression. *Social Psychiatry and Psychiatric Epidemiology*, 37(2), 53–59.
- Bifulco, A., Mahon, J., Kwon, J. H., Moran, P. M., & Jacobs, C. (2003). The Vulnerable Attachment Style Questionnaire (VASQ): An interview-based measure of attachment styles that predict depressive disorder. *Psychological Medicine*, 33(6), 1099–1110.
- Bifulco, A., Kwon, J., Jacobs, C., Moran, P. M., Bunn, A., & Beer, N. (2006). Adult attachment style as mediator between childhood neglect/abuse and adult depression and anxiety. *Social Psychiatry and Psychiatric Epidemiology*, 41(10), 796–805.
- Bifulco, A., Kagan, L., Spence, R., Nunn, S., Bailey-Rodriguez, D., Hosang, G., Taylor, M., & Fisher, H. L. (2019). Characteristics of severe life events, attachment style, and depression – using a new online approach. *British Journal of Clinical Psychology*, 58(4), 427–439.
- Bjørnnes, A. K., Parry, M., Lie, I., Falk, R., Leegaard, M., & Rustøen, T. (2018). The association between hope, marital status, depression and persistent pain in men and women following cardiac surgery. *BMC Women's Health*, 18(1), 2–12.
- Boyce, P., Harris, M., Silove, D., Morgan, A., Wilhelm, K., & Hadzi-Pavlovic, D. (1998). Psychosocial factors associated with depression: A study of socially disadvantaged women with young children. *The Journal of Nervous and Mental Disease*, 186(1), 3–11.
- Boyda, D., McFeeters, D., Dhingra, K., Galbraith, N., & Hinton, D. (2018). Parental psychopathology, adult attachment and risk of 12-month suicidal behaviours. *Psychiatry Research*, 260, 272–278.
- Bowlby, J. (1969). *Attachment and loss: Attachment*. New York: Basic Books.
- Brinker, J., & Cheruvu, V. K. (2017). Social and emotional support as a protective factor against current depression among individuals with adverse childhood experiences. *Preventive Medicine Reports*, 5, 127–133.
- Brown, G. W., & Harris, T. (1978). *Social origins of depression: A study of psychiatric disorder in women*. London: Tavistock Publications.
- Brown, G. W., Harris, T. O., & Hepworth, C. (1995). Loss, humiliation and entrapment among women developing depression: A patient and non-patient comparison. *Psychological Medicine*, 25(1), 7–21.
- Brugha, T. S., & Cragg, D. (1990). The list of threatening experiences: The reliability and validity of a brief life events questionnaire. *Acta Psychiatrica Scandinavica*, 82(1), 77–81.
- Brugha, T., Bebbington, P., Tennant, C., & Hurry, J. (1985). The List of Threatening Experiences: A subset of 12 life event categories with considerable long-term contextual threat. *Psychological Medicine*, 15(1), 189–194.
- Carvalho, S., Dinis, A., Pinto-Gouveia, J., & Estanqueiro, C. (2015). Memories of shame experiences with others and depression symptoms: The mediating role of experiential avoidance. *Clinical Psychology & Psychotherapy*, 22(1), 32–44.
- Chong, E., & Khong, F. A. (2018). *The living wage: beyond making ends meet*. Kuala Lumpur: Bank Negara Malaysia.
- Collins, E. F., & Bahar, E. (2000). To know shame: Malu and its uses in Malay societies. *Crossroads: An Interdisciplinary Journal of Southeast Asian Studies*, 14, 35–69.
- D'Avanzato, C., Joormann, J., Siemer, M., & Gotlib, I. H. (2013). Emotion regulation in depression and anxiety: Examining diagnostic specificity and stability of strategy use. *Cognitive Therapy and Research*, 37(5), 968–980.
- Dark-Freudeman, A., Pond Jr., R. S., Paschall, R. E., & Greskovich, L. (2020). Attachment style in adulthood: Attachment style moderates the impact of social support on depressive symptoms. *Journal of Social and Personal Relationships*, 37(10–11), 2871–2889.
- Davey-Rothwell, M. A., Stewart, J., Vadnais, A., Braxton, S. A., & Latkin, C. A. (2017). The role of partner support among women with depressive symptoms. *Community Mental Health Journal*, 53(4), 415–419.
- Druss, B. G., Rosenheck, R. A., & Sledge, W. H. (2000). Health and disability costs of depressive illness in a major US corporation. *American Journal of Psychiatry*, 157(8), 1274–1278.
- Dryman, M. T., & Heimberg, R. G. (2018). Emotion regulation in social anxiety and depression: A systematic review of expressive suppression and cognitive reappraisal. *Clinical Psychology Review*, 65, 17–42.
- Ehrenberg, M. F., Robertson, M., & Pringle, J. (2012). Attachment style and marital commitment in the context of remarriage. *Journal of Divorce & Remarriage*, 53(3), 204–219.
- Ehring, T., Tuschen-Caffier, B., Schnülle, J., Fischer, S., & Gross, J. J. (2010). Emotion regulation and vulnerability to depression: Spontaneous versus instructed use of emotion suppression and reappraisal. *Emotion*, 10(4), 563–572.

- Farb, N. A., Irving, J. A., Anderson, A. K., & Segal, Z. V. (2015). A two-factor model of relapse/recurrence vulnerability in unipolar depression. *Journal of Abnormal Psychology, 124*(1), 38–53.
- Ferreira, C., Mendes, A. L., Marta-Simões, J., & Trindade, I. A. (2016). Decentering and avoidance: Mechanisms between external shame and depression symptomatology. *European Psychiatry, 33*(S1), S157–S157.
- Fisher, S. D., Brock, R. L., O'Hara, M. W., Kopelman, R., & Stuart, S. (2015). Longitudinal contribution of maternal and paternal depression to toddler behaviors: Interparental conflict and later depression as mediators. *Couple and Family Psychology: Research and Practice, 4*(2), 61–73.
- Frese, M., & Mohr, G. (1987). Prolonged unemployment and depression in older workers: A longitudinal study of intervening variables. *Social Science & Medicine, 25*(2), 173–178.
- Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert & B. Andrews (Eds.), *Shame: interpersonal behavior, psychopathology and culture* (pp. 3–36). New York: Oxford University Press.
- Gilbert, P. (2000). The relationship of shame, social anxiety and depression: The role of the evaluation of social rank. *Clinical Psychology & Psychotherapy, 7*, 174–189.
- Girgus, J. S., & Yang, K. (2015). Gender and depression. *Current Opinion in Psychology, 4*, 53–60.
- Goldberg, D. (1978). *Manual of the General Health Questionnaire*. Slough, UK: NFER Nelson.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348–490.
- Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures. I. The “Other as Shamer Scale”. *Personality and Individual Differences, 17*, 713–717.
- Haga, S. M., Kraft, P., & Corby, E. K. (2009). Emotion regulation: Antecedents and well-being outcomes of cognitive reappraisal and expressive suppression in cross-cultural samples. *Journal of Happiness Studies, 10*(3), 271–291.
- Harris, T. (2003). Depression in women and its sequelae. *Journal of Psychosomatic Research, 54*, 103–112.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*(3), 511–524.
- Hazel, N., & Clark, A. (2013). Negotiating doorstep access: Door-to-door survey researchers' strategies to obtain participation. *International Journal of Social Research Methodology, 16*(4), 307–321.
- Hirschman, C. (2016). Gender, the status of women, and family structure in Malaysia. *Malaysian Journal of Economic Studies, 53*(1), 33–50.
- Hillier, A., Cannuscio, C. C., Griffin, L., Thomas, N., & Glanz, K. (2014). The value of conducting door-to-door surveys. *International Journal of Social Research Methodology, 17*(3), 285–302.
- Hobi, V., Gerhard, U., & Gutzwiller, F. (1989). A report on experiences using Goldberg's GHQ (General Health Questionnaire). *Schweizerische Rundschau für Medizin Praxis, 78*(9), 219–225.
- Hussain, F. A., & Cochrane, R. (2002). Depression in South Asian women: Asian women's beliefs on causes and cures. *Mental Health, Religion and Culture, 5*(3), 285–311.
- Ikeda, M., Hayashi, M., & Kamibepu, K. (2014). The relationship between attachment style and postpartum depression. *Attachment & Human Development, 16*(6), 557–572.
- Jenkins-Guamieri, M. A., Wright, S. L., & Hudiburgh, L. M. (2012). The relationships among attachment style, personality traits, interpersonal competency, and Facebook use. *Journal of Applied Developmental Psychology, 33*(6), 294–301.
- Jinyao, Y., Xiongzhaoh, Z., Auerbach, R. P., Gardiner, C. K., Lin, C., Yuping, W., & Shuqiao, Y. (2012). Insecure attachment as a predictor of depressive and anxious symptomology. *Depression and Anxiety, 29*(9), 789–796.
- Joomann, J., & Stanton, C. H. (2016). Examining emotion regulation in depression: A review and future directions. *Behaviour Research and Therapy, 86*, 35–49.
- Karasz, A., Gany, F., Escobar, J., Flores, C., Prasad, L., Inman, A., Kalasapudi, V., Kosi, R., Murthy, M., Leng, J., & Diwan, S. (2019). Mental health and stress among South Asians. *Journal of Immigrant and Minority Health, 21*(1), 7–14.
- Kendler, K. S., & Gardner, C. O. (2016). Depressive vulnerability, stressful life events and episode onset of major depression: A longitudinal model. *Psychological Medicine, 46*(9), 1865–1874.
- Kendler, K. S., Hettema, J. M., Butera, F., Gardner, C. O., & Prescott, C. A. (2003). Life event dimensions of loss, humiliation, entrapment, and danger in the prediction of onsets of major depression and generalized anxiety. *Archives of General Psychiatry, 60*(8), 789–796.
- Kendler, K. S., Gardner, C. O., & Prescott, C. A. (2002). Toward a comprehensive developmental model for major depression in women. *American Journal of Psychiatry, 159*(7), 1133–1145.
- Keser, E., Kahya, Y., & Akın, B. (2020). Stress generation hypothesis of depressive symptoms in interpersonal stressful life events: The roles of cognitive triad and coping styles via structural equation modeling. *Current Psychology, 39*(1), 174–182.
- Kessler, R. C. (2003). Epidemiology of women and depression. *Journal of Affective Disorders, 74*(1), 5–13.

- Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, guilt, and depressive symptoms: A meta-analytic review. *Psychological Bulletin*, *137*(1), 68–96.
- Kim, D. H., & Um, M. Y. (2018). The relationships among family income, parental depression, and adolescent aggression in South Korea: A latent growth mediation model. *Children and Youth Services Review*, *84*, 168–175.
- Kinyanda, E., Woodburn, P., Tugumisirize, J., Kagugube, J., Ndyabangi, S., & Patel, V. (2011). Poverty, life events and the risk for depression in Uganda. *Social Psychiatry and Psychiatric Epidemiology*, *46*(1), 35–44.
- Kobak, R., & Bosmans, G. (2019). Attachment and psychopathology: A dynamic model of the insecure cycle. *Current Opinion in Psychology*, *25*, 76–80.
- Kuczmariski, A. V., Cotugna, N., Mason, M. A., Evans, M. K., & Zonderman, A. B. (2015). Depression and cognitive impairment are associated with low education and literacy status and smoking but not caffeine consumption in urban African Americans and white adults. *Journal of Caffeine Research*, *5*(1), 31–41.
- Kupeli, N., Norton, S., Chilcot, J., Schmidt, U. H., Campbell, I. C., & Troop, N. A. (2015). A confirmatory factor analysis and validation of the Vulnerable Attachment Style Questionnaire. *Journal of Psychopathology and Behavioral Assessment*, *37*(1), 153–163.
- Lee, H. S., & Ko, Y. (2017). The effects of self-esteem, stress, and social support on depression among middle-aged women. *Journal of Korean Public Health Nursing*, *31*(1), 58–70.
- Leupp, K. (2017). Depression, work and family roles, and the gendered life course. *Journal of Health and Social Behavior*, *58*(4), 422–441.
- Liao, K. Y. H., & Wei, M. (2015). Insecure attachment and depressive symptoms: Forgiveness of self and others as moderators. *Personal Relationships*, *22*(2), 216–229.
- Losiak, W., Blaut, A., Kłosowska, J., & Losiak-Pilch, J. (2019). Stressful life events, cognitive biases, and symptoms of depression in young adults. *Frontiers in Psychology*, *10*, 2165. <https://doi.org/10.3389/fpsyg.2019.02165>.
- Maji, S. (2018). Society and ‘good woman’: A critical review of gender difference in depression. *International Journal of Social Psychiatry*, *64*(4), 396–405.
- Maideen, S. F. K., Sidik, S. M., Rampal, L., & Mukhtar, F. (2014). Prevalence, associated factors and predictors of depression among adults in the community of Selangor, Malaysia. *PLoS One*, *9*(4), e95395.
- Manuel, J. I., Martinson, M. L., Bledsoe-Mansori, S. E., & Bellamy, J. L. (2012). The influence of stress and social support on depressive symptoms in mothers with young children. *Social Science & Medicine*, *75*(11), 2013–2020.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224–253.
- Matos, M., & Pinto-Gouveia, J. (2014). Shamed by a parent or by others: The role of attachment in shame memories relation to depression. *International Journal of Psychology and Psychological Therapy*, *14*(2), 217–244.
- Mathias, K., Goicolea, I., Kermode, M., Singh, L., Shidhaye, R., & San Sebastian, M. (2015). Cross-sectional study of depression and help-seeking in Uttarakhand, North India. *BMJ Open*, *5*(11), e008992.
- Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World Psychiatry*, *11*(1), 11–15.
- Mohan, S. N., Mukhtar, F., & Jobson, L. (2016). Protocol for a between-group experimental study examining cultural differences in emotion processing between Malay and Caucasian adults with and without major depressive disorder. *BMJ Open*, *6*(10), e012774.
- Monti, J. D., & Rudolph, K. D. (2014). Emotional awareness as a pathway linking adult attachment to subsequent depressive symptoms. *Journal of Counseling Psychology*, *61*, 374–382.
- Moran, P. M., Bifulco, A., Ball, C., & Campbell, C. (2001). Predicting onset of depression: The Vulnerability to Depression Questionnaire. *British Journal of Clinical Psychology*, *40*(4), 411–427.
- Muzik, M., Morelen, D., Hruschak, J., Rosenblum, K. L., Bocknek, E., & Beeghly, M. (2017). Psychopathology and parenting: An examination of perceived and observed parenting in mothers with depression and PTSD. *Journal of Affective Disorders*, *207*, 242–250.
- Nonnenmacher, N., Noe, D., Ehrenthal, J. C., & Reck, C. (2016). Postpartum bonding: The impact of maternal depression and adult attachment style. *Archives of Women's Mental Health*, *19*(5), 927–935.
- Noor, N. M., & Mahudin, N. D. M. (2016). Work, family and women’s well-being in Malaysia. In *Handbook on well-being of working women* (pp. 717–734). Dordrecht: Springer.
- Noor, N. M. (1999). Roles and women’s well-being: Some preliminary findings from Malaysia. *Sex Roles*, *41*(3–4), 123–145.
- Nurbaeti, I., Deoisres, W., & Hengudomsub, P. (2019). Association between psychosocial factors and postpartum depression in South Jakarta, Indonesia. *Sexual & Reproductive Healthcare*, *20*, 72–76.

- Orth, U., Robins, R. W., Meier, L. L., & Conger, R. D. (2016). Refining the vulnerability model of low self-esteem and depression: Disentangling the effects of genuine self-esteem and narcissism. *Journal of Personality and Social Psychology*, *110*(1), 133–149.
- Ozdemir, H., & Rezaki, M. (2007). General Health Questionnaire-12 for the detection of depression. *Türk Psikiyatri Dergisi*, *18*(1), 13–21.
- Park, G. R., Park, E. J., Jun, J., & Kim, N. S. (2017). Association between intimate partner violence and mental health among Korean married women. *Public Health*, *152*, 86–94.
- Paykel, E. S. (1991). Depression in women. *British Journal of Psychiatry*, *158*(10), 22–29.
- Pulgar, C. A., Trejo, G., Suerken, C., Ip, E. H., Arcury, T. A., & Quandt, S. A. (2016). Economic hardship and depression among women in Latino farmworker families. *Journal of Immigrant and Minority Health*, *18*(3), 497–504.
- Rashid, A., & Mohd, R. (2017). Poor social support as a risk factor for antenatal depressive symptoms among women attending public antenatal clinics in Penang, Malaysia. *Reproductive Health*, *14*(1), 144–152.
- Ringer, J. M., Buchanan, E. E., Olesek, K., & Lysaker, P. H. (2014). Anxious and avoidant attachment styles and indicators of recovery in schizophrenia: Associations with self-esteem and hope. *Psychotherapy and Psychotherapy: Theory, Research and Practice*, *87*(2), 209–221.
- Roberson, P. N., Lenger, K. A., Norona, J. C., & Olmstead, S. B. (2018). A longitudinal examination of the directional effects between relationship quality and well-being for a national sample of US men and women. *Sex Roles*, *78*(1–2), 67–80.
- Romans, S., Cohen, M., & Forte, T. (2011). Rates of depression and anxiety in urban and rural Canada. *Social Psychiatry and Psychiatric Epidemiology*, *46*(7), 567–575.
- Salk, R. H., Hyde, J. S., & Abramson, L. Y. (2017). Gender differences in depression in representative national samples: Meta-analyses of diagnoses and symptoms. *Psychological Bulletin*, *143*(8), 783–822.
- Sharabi, L. L., Delaney, A. L., & Knobloch, L. K. (2016). In their own words: How clinical depression affects romantic relationships. *Journal of Social and Personal Relationships*, *33*(4), 421–448.
- Singh-Manoux, A., Dugravot, A., Fournier, A., Abell, J., Ebmeier, K., Kivimäki, M., & Sabia, S. (2017). Trajectories of depressive symptoms before diagnosis of dementia: A 28-year follow-up study. *JAMA Psychiatry*, *74*(7), 712–718.
- Slavich, G. M., Monroe, S. M., & Gotlib, I. H. (2011). Early parental loss and depression history: Associations with recent life stress in major depressive disorder. *Journal of Psychiatric Research*, *45*(9), 1146–1152.
- Spence, R., Jacobs, C., & Bifulco, A. (2020). Attachment style, loneliness and depression in older age women. *Aging & Mental Health*, *24*(5), 837–839.
- Sun, J., Stewart, D., Yuan, B. J., & Zhang, S. H. (2012). Validation and normalization of the General Health Questionnaire 30 in parents with primary school children in China. *Comprehensive Psychiatry*, *53*(5), 593–599.
- Takiguchi, T., Yoshihara, A., Takano, N., & Miyazaki, H. (2016). Oral health and depression in older Japanese people. *Gerontology*, *33*(4), 439–446.
- Tennant, C. (2002). Life events, stress and depression: A review of recent findings. *Australian and New Zealand Journal of Psychiatry*, *36*, 173–182.
- Tibubos, A. N., Burghardt, J., Klein, E. M., Brähler, E., Jünger, C., Michal, M., ... & Pfeiffer, N. (2020). Frequency of stressful life events and associations with mental health and general subjective health in the general population. *Journal of Public Health*. Advance Online Publication. <https://doi.org/10.1007/s10389-020-01204-3>.
- Troy, A. S., Shallcross, A. J., & Mauss, I. B. (2013). A person-by-situation approach to emotion regulation: Cognitive reappraisal can either help or hurt, depending on the context. *Psychological Science*, *24*(12), 2505–2541.
- Vanclay, F., Baines, J. T., & Taylor, C. N. (2013). Principles for ethical research involving humans: Ethical professional practice in impact assessment part I. *Impact Assessment and Project Appraisal*, *31*(4), 243–253.
- Wallace, J., Schneider, T., & McGuffin, P. (2002). Genetics of depression. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 169–191). London: The Guilford Press.
- Wang, X., Wang, W., Xie, X., Wang, P., Wang, Y., Nie, J., & Lei, L. (2018). Self-esteem and depression among Chinese adults: A moderated mediation model of relationship satisfaction and positive affect. *Personality and Individual Differences*, *135*, 121–127.
- Weissman, M. M., & Olfson, M. (1995). Depression in women: Implications for healthcare research. *Science*, *269*(5225), 799–801.
- Wilkinson, R. B., & Mulcahy, R. (2010). Attachment and interpersonal relationships in postnatal depression. *Journal of Reproductive and Infant Psychology*, *28*(3), 252–265.
- Wood, L., & Irons, C. (2016). Exploring the associations between social rank and external shame with experiences of psychosis. *Behavioural and Cognitive Psychotherapy*, *44*(5), 527–538.

- World Medical Association (2001). World Medical Association Declaration of Helsinki. Ethical principles for medical research involving human subjects. *Bulletin of the World Health Organization*, 79(4), 373–374.
- Yakeley, J. (2018). Shame, culture and mental health. *Nordic Journal of Psychiatry*, 72(S1), S20–S22.
- Yeoh, S. H., Tam, C. L., Wong, C. P., & Bonn, G. (2017). Examining depressive symptoms and their predictors in Malaysia: Stress, locus of control, and occupation. *Frontiers in Psychology*, 8, 1411.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.