

Screening for Mood Difficulties in Men in Italy and Australia Using the Edinburgh Postnatal Depression Scale and the Matthey Generic Mood Questionnaire

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Calls to screen for men's emotional health during the perinatal period have been increasing in recent times, given that emotional health screening for women is now well embedded in many clinical services. Although the Edinburgh Postnatal Depression Scale (EPDS) has been used for women, and also validated for men, a recent examination of this measure showed that it may not be ideal for men (or women). This study screened expectant fathers with the EPDS and a more recent measure, the Matthey Generic Mood Questionnaire, which has been designed to overcome some of the limitations of the EPDS. Expectant fathers in Italy ($N = 145$) and Australia ($N = 185$) were recruited from community antenatal clinics or classes, and these fathers completed the 2 measures. Results showed that on both measures, a meaningfully higher rate (2–8 times higher) of men in the Australian sample than men in the Italian sample screened positive for mood difficulties. The Matthey Generic Mood Questionnaire's ability to detect a variety of negative emotions, coupled with its clinically useful questions of allowing men to express why they feel distressed, and whether they would like to speak to a health professional about this, indicates that it could be a useful measure for health services wishing to screen men for emotional difficulties in the perinatal period.

Public Significance Statement

With the increasing recognition that men's mental health needs during pregnancy and postpartum are important, this study provides health services evidence for a new resource when deciding how best to screen for men's emotional health. This study found that a new self-report measure of mood that does not depend on the endorsement of a select set of symptoms was suitable for the expectant fathers in Italy and Australia. On this new measure, both sets of expectant fathers were open to expressing what their difficulties were, and some also openly expressed a wish to talk about their issues further with a health professional.

Keywords: perinatal screening, men, depression, anxiety, measure

Routine screening for women's emotional difficulties during the perinatal period has been in place, or has been recommended, in many Western countries for several years, including Australia (Austin et al., 2010; beyondblue, 2011), England (National Institute for Clinical Excellence, 2007), America (Committee on Obstetric Practice, 2015), and Canada (British Columbia Best Practice Guidelines for Mental Health Disorders in the Perinatal

Period, 2014). The most common self-report measure used for this purpose is the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987), which has been validated for women in over 30 countries, including Australia and Italy (Benvenuti, Ferrara, Niccolai, Valoriani, & Cox, 1999; Boyce, Stubbs, & Todd, 1993; Carpinello, Pariente, Serri, Costa, & Carta, 1997).

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Although routine screening is usually aimed at women, some researchers are advocating that men should also be screened for their emotional health during the perinatal period (Kerstis et al., 2016; Paulson, Dauber, & Leiferman, 2006), given the evidence that rates of these disorders in men can also be moderate to substantial (around 5%–15%: Cameron, Sedov, & Tomfohr-Madsen, 2016; Leach, Poyser, Cooklin, & Giallo, 2016; O'Brien et al., 2017; Paulson & Bazemore, 2010), and that such paternal mood difficulties can have negative effects on the infant and also the couple (Kvalevaag et al., 2013; Ramchandani et al., 2011; Sethna, Murray, Netsi, Psychogiou, & Ramchandani, 2015). Of note is that recently the National Health Service in England has released a statement saying that men will be offered mental health checks during the perinatal period, though without as yet any details of how this will be done and which screening measure will be used (National Health Service England, 2018).

Although there is some debate as to which self-report instruments would be most appropriate for men, which has led to the creation of male-specific measures (e.g., Gotland Male Depression Scale: Wålinder & Rutz, 2001; Masculine Depression Scale: Magovcevic & Addis, 2008), the EPDS has also been validated for men in six countries, including Italy and Australia (Loscalzo, Giannini, Contena, Gori, & Benvenuti, 2015; Matthey, Barnett, Kavanagh, & Howie, 2001).

In Italy, the rates of probable postnatal depression in men using the EPDS have varied from 1.7% to 12.6% (Clavenna et al., 2017; Currò et al., 2009; Epifanio, Genna, De Luca, Roccella, & La Grutta, 2015; Vismara et al., 2016), whereas the rates of probable postnatal distress (depression or anxiety) can reach 24.6% (Epifanio et al., 2015). With regard to antenatal depression, one Italian study found a prevalence of 3.2% for men in the third trimester of their partner's pregnancy (Molgora, Fenaroli, Malgaroli, & Saita, 2017; and S. Molgora, personal communication, June 12, 2018). In Australia, postnatal studies using the EPDS have reported rates of probable depression in men to be from 1.2% to 10% (Buist, Morse, & Durkin, 2003; Cook et al., 2017; Morse, Buist, & Durkin, 2000; Wynter, Rowe, & Fisher, 2014), with antenatal rates varying between 5.3% and 12%, and 15.5% for probable distress (Buist et al., 2003; Fletcher, Vimpani, Russell, & Sibbritt, 2008).

Although the EPDS has thus been used for men to report on their mental health in the perinatal period, this scale has many limitations, as recently outlined by Matthey and Agostini (2017). These limitations include that it excludes certain types of clinically relevant distress, it has a high rate of false positives, some items may not be suitable for men, and there are a multitude of validated cutoff scores (for both women and men), making its use in clinical settings impractical. A recent measure has therefore been developed, and tested on women but not men, that overcomes many of these limitations: the Matthey Generic Mood Questionnaire (MGMQ; Matthey, Valenti, Souter, & Ross-Hamid, 2013). This measure covers a range of negative emotions without using a checklist of specific symptoms, uses a categorical response format, is brief and easy to interpret, and will have just two probable screen-positive thresholds. It also contains two questions that are useful for clinicians in understanding why the man (or woman) may be distressed and whether he (she) would like professional help. Current research on this instrument has shown that it performs well for women against anxiety and depression measures, including the EPDS, and diagnoses of depression and anxiety

(Matthey et al., 2013; Matthey & Bilbao, 2018; Matthey & Della Vedova, 2018; Matthey, Souter, Valenti, & Ross-Hamid, in press), and preliminary investigations (unpublished) by the authors in both countries suggest that it may also perform well for men. This study therefore has two aims. The first is to report on the comparative rates of substantial mood difficulties in men in Italy and Australia during their partner's pregnancy, using both the EPDS and the MGMQ. The second is to examine the performance of this newer MGMQ scale with the established EPDS for men in Italy and Australia.

Method

Participants

Two samples of men participated in the study, one from northern Italy ($N = 145$) and the other from Sydney, Australia ($N = 185$). The men in both samples were either attending preparation for parenthood classes, or routine antenatal clinics, with their partner. In addition, a few men in both samples ($N = 7$: Australian sample; $N = 10$: Italian sample) who were not present with their partner at the clinics or classes also participated in the study (see Procedure section). These clinics and classes were chosen as recruitment venues to assess the suitability of the MGMQ, given that these are frequently attended by men in the perinatal period.

Procedure

In both the Italian and Australian samples, if men were not present with their partner at the clinic or antenatal class, they could still choose to participate in the study, as their partner was given the study information sheet that could be shared with them. This methodology was approved by the relevant ethics committees. The reasons why some men did not attend the clinics or classes were not, however, ascertained but would have included them having work or other commitments.

Italian sample. Men and their partners were invited to participate in a study regarding mothers' and fathers' perinatal emotional health while attending an antenatal education class with their pregnant partner, or while attending the local antenatal clinic, between June 2016 and January 2018. Of 180 men who were approached to participate in the study, 135 agreed to participate (75% uptake). Ten men who were not at the clinics or classes also chose to participate, having seen the study information sheet given to their partner, thus providing a total sample size of 145. These men completed the EPDS (Italian translation: Benvenuti et al., 1999), as well as the first three questions of the MGMQ, with 43 of them also completing the fourth "Wish for Referral" question (see Measures section).

Australian sample. Couples attending antenatal classes or the public hospital's antenatal clinics were recruited into a study examining couple communication in pregnancy, between December 2015 and June 2016. In total 236 men who were present at the clinics or classes were invited to participate, of whom 178 consented (75% uptake). A further seven men, who were not present at the clinics or classes but who had been given the study information by their partner, also chose to participate. This meant that 185 men provided complete data. These men completed the first three questions on the MGMQ (but not the fourth "Wish for

Referral" question, due to service resource concerns—see Measures section), with the final 107 also completing the EPDS.

Both studies had the required Ethics approval. Australian sample: South Western Sydney Local Health District Human Ethics Committee; Italian sample: approval of the Servizio Infermieristico, Tecnico, Riabilitativo (SITRA), and the Institutional Board of Cremona Azienda Socio-Sanitaria Territoriale (ASST). Informed consent was obtained from all participants.

Measures

Edinburgh Postnatal Depression Scale. The EPDS (Cox et al., 1987) consists of 10 questions concerning the respondent's mood in the past 7 days. The total score can range from 0 to 30, with higher scores indicating poorer mood. It has been validated for men in six studies, resulting in eight different screen-positive scores ranging from 5 or more to 13 or more, for a variety of depressive or anxious disorders across five countries and cultures (England: Edmondson, Psychogiou, Vlachos, Netsi, & Ramchandani, 2010; China: Lai, Tang, Lee, Yip, & Chung, 2010; Italy: Loscalzo et al., 2015; Australia: Matthey et al., 2001; Sweden: Massoudi, Hwang, & Wickberg, 2013; Vietnam: Tran, Tran, & Fisher, 2012). For depression screening, the Italian study recommended that a score of 13 or more was optimal for their population (Loscalzo et al., 2015: major depression), whereas the Australian study demonstrated that a screen-positive score of 10 or more was optimal for minor or major depression (Matthey et al., 2001).

Although for women there is evidence that the score on the commonly found three-item Anxiety subscale of the EPDS can also be used to screen for anxiety disorders (Matthey, 2008), the factor structure for men has been shown to be different, with no clear Anxiety subscale being found, in both Italian and Australian samples (Loscalzo et al., 2015; Matthey et al., 2001). Two studies in English-speaking countries have however validated the EPDS Total score for depression or anxiety ("distress") in men, finding that the optimal score for detecting this distress is 6 or more (Australia: Matthey et al., 2001) or 9 or more (England: Edmondson et al., 2010), although there are some differences in the exact anxiety diagnoses that were included in the two studies.

Thus, three EPDS screen-positive scores will be used to compare rates of possible depression and possible distress in the Italian and Australian samples. For depression, the scores of 13 or more (Italian) and 10 or more (Australian) will be used, whereas for depression or anxiety ("distress"), the score of 6 or more will be used for both samples, though caution should be applied to this, as no validated distress score has yet been determined for Italian men.

Matthey Generic Mood Questionnaire. The MGMQ (Matthey et al., 2013) screens for mood in the past 2 weeks and consists of four questions (the pronoun "he" will now be used where appropriate, rather than "he or she," given that this is a study with men): (a) the Distress question: "Have you felt very stressed, anxious, or unhappy, or found it difficult to cope, for some of the time?" (response options: "yes," "possibly," "no"); (b) the Bother Impact question (if he responded "yes" or "possibly" to the Distress question): "How bothered have you been by these feelings?" (response options: "not at all," "a little bit," "moderately," "a lot"); (c) the Reason for Distress question (if the Bother Impact question was endorsed): "What do you think has made you feel this way? (please describe if you wish to do so)" (open text response); and

(d) the Wish for Referral question: "Would you like to talk with a health professional about how you've been feeling?" (response options: "yes," "possibly," "no").

Although this measure has not yet been used in men, it has been shown to have satisfactory properties for general mood screening in women. The Distress question detected 89.5% of women screening positive on the Primary Health Questionnaire-2 (Kroenke, Spitzer, & Williams, 2003), a measure of depression, and between 63% and 87.5% of those screening positive for depression or anxiety on the EPDS (Matthey & Bilbao, 2018; Matthey & Della Vedova, 2018). Matthey et al. (2013) also showed that it detected the majority of women screening positive on measures of general anxiety (84%–87%), with a somewhat lower detection of women screening positive for pregnancy-specific anxiety (58%–67%). They also reported that it detected 80% of those women meeting *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria for an anxiety disorder. Furthermore, the MGMQ also performs satisfactorily against diagnoses of depression or anxiety (Matthey et al., in press).

In both Italy and Australia, convenience surveys of health professionals showed that most considered the response of "moderately (bothered)" or more on the Bother Impact question to be the optimal screen-positive threshold for women (Matthey & Bilbao, 2018; Matthey & Della Vedova, 2018). The Italian professionals ($N = 71$) came from a variety of disciplines, with the majority being psychologists (80%) and the remaining being midwives, obstetricians, psychiatrists, and family doctors, with 40% of these 71 professionals working in the perinatal area. The Australian mental health professionals ($N = 28$) were also mainly psychologists (96%), with one medical practitioner and two who did not specify their discipline. Of these 28 health professionals, only one had not worked clinically with adults, though no information was collected on their specific experience in the perinatal field. In the absence of similar data for men, the screen-positive thresholds to be used will be the "a little bit (bothered)" response or higher ("lower screen-positive threshold") and also the "moderately (bothered)" response or higher ("higher screen-positive threshold"), as has been reported in the other published MGMQ studies (Matthey & Bilbao, 2018; Matthey & Della Vedova, 2018).

The MGMQ has been translated into Italian, and checked for conceptual and cultural equivalence (Matthey & Della Vedova, 2018). No specific question however was asked at that stage about the appropriateness of the measure for men.

Analyses Considerations

The research questions were as follows:

Research Question 1: What are the screen-positive rates in both the Italian and Australian samples, on the EPDS and the MGMQ, using their culturally appropriate validated cutoff scores?

Research Question 2: What is the concordance between the EPDS and the MGMQ for men screening positive on each measure, for each sample, using their culturally appropriate validated cutoff scores?

Research Question 3: What are the reasons men from each sample give on the MGMQ for feeling distressed?

Research Question 4: Do some men in the Italian sample report on the MGMQ that they wish to talk to a health professional?

For the first research question, comparison between the samples will use effect size metrics. Medium effect sizes will be considered clinically meaningful (clinically significant), with these being a d of 0.5 or more, a percentage point difference of 18 points or more for the range between 15% and 85%, and a relative risk value of 1.9 or more for percentages outside of this range (Cohen, 1992; Hopkins, 2002; Rosenthal, 1996). This approach, rather than reporting just statistical significance, has been used given that statistical significance is mainly dependent on sample size and can be obtained even with very small—and clinically meaningless—differences (Field, 2016; Kline, 2009; Matthey, 1998). The power to detect statistically significant differences will, however, also be reported for these analyses (see footnote in Table 2).

The second research question concerning concordance between the two measures will be analyzed, with respect to the detection of screen-positive individuals, as has been done in several other perinatal studies (Bennett et al., 2008; Condon & Corkindale, 1997; Kastello et al., 2015; Matthey & Bilbao, 2018). This type of analysis was chosen in preference to correlational analyses between the two measures, as this latter technique, when applied to all participants, can obscure the true relationship between the lesser number of screen-positive participants. And it is these latter type of participants who are of most importance in a screening program that aims to detect men who are having significant emotional difficulties.

Of note is that given the moderate sample sizes, the number of screen-positive men on some of the thresholds was too small for any meaningful analysis to be undertaken. Where this occurs, the appropriate comment will be made. In addition, the EPDS comparative analyses will use the respective validated depression threshold scores for each cultural group (13 or more for the Italian sample; 10 or more for the Australian sample), though for illustrative purposes, the rates that would have been obtained using the threshold for the other group will also be reported.

Results

Demographics

Table 1 shows the respective demographic characteristics of the two samples. As can be seen, both samples are broadly comparable in the variables of stage of pregnancy, parity status, age, educational level, and employment status. There is, however, a clinically meaningful difference in the proportion of each sample who considered themselves to be “Italian” (90%) or “Australian” (42%). The analyses and findings do not therefore refer to Italian or Australian men but rather to men in the Italian and Australian samples.

Recruitment Sites

For the Italian sample, there were no statistically or clinically meaningful differences between the two recruitment sites (preparation for parenthood classes or antenatal clinics) on their mean EPDS scores, nor on the MGMQ Distress or Bother Impact rates.

Table 1
Demographic Details for the Two Samples of Men

Demographic variables	Italian sample ($N = 145$)	Australian sample ($N = 185$) ^a
% Native Italian/Australian	90	42
Age: M (SD ; range)	36.2 (5.5; 23–52)	31.4 (6.0; 18–54)
Nulliparous (%)	94	75
Weeks pregnant (partner): M (SD ; range)	32.5 (3.8; 21–39)	31.1 (6.2; 12–41)
University education (%)	31	41
Employed (%)	96	96

Note. Percentages rounded up or down.

^a Matthey Generic Mood Questionnaire data obtained from 185 men; Edinburgh Postnatal Depression Scale data from 107 of these men. There were no clinically or statistically significant differences on demographic information between those who did and those who did not complete the Edinburgh Postnatal Depression Scale.

For the Australian sample, there was a statistically greater proportion of those recruited from antenatal clinics who said that they were distressed on the MGMQ and that this bothered them moderately or more compared with those recruited from the antenatal classes (32% vs. 22%; $\chi^2 = 9.08$, $p = .003$; percentage point difference = 10 points), though this difference is not clinically meaningful with the effect size metric being less than medium.

Research Question 1: Rates of Distress in the Italian and Australian Samples

Edinburgh Postnatal Depression Scale. Men in Australia scored clinically and statistically significantly higher than men in Italy on the EPDS, with their respective means being 4.4 and 2.7, Welch’s $t(185.92) = 4.04$, $p < .001$, $d = 0.54$. The impact of this is best seen in Table 2, which shows a large screen-positive percentage difference between the two samples on both the rates of possible depression and of possible distress, using the various screen-positive scores. For distress, approximately two to three times as many men in the Australian sample screen positive than those in the Italian sample (36.4% vs. 13.8%), and for probable depression, approximately eight times, using each culture’s validated cutoff score (8.4% vs. 0.7%), or four times, using the same cutoff score in each sample, as many men in the Australian sample screen positive than those in the Italian sample (8.4% vs. 2.1% or 2.8% vs. 0.7%). All of these differences are clinically meaningfully different.

Matthey Generic Mood Questionnaire. As shown in Table 2, around twice as many men in the Australian sample endorse screen-positive responses on the MGMQ Distress question: 42.1% vs. 20.8%; lower Bother Impact: 37.7% vs. 16.7%, with this difference rising to four times for the higher Bother Impact question (10.9% vs. 2.8%). These differences are again clinically significant, using the percentage point difference and the relative risk metrics. Of note also is that in both samples, the majority of men screening positive on the Distress question (those endorsing “possibly” or “yes”) endorsed the “possibly” response, rather than the “yes” response. Thus, of the 30 men in the Italian sample screening positive, 25 endorsed “possibly” (83%). Of the 77 men in the Australian sample screening positive, 52 endorsed “possibly” (68%).

Table 2

Percent of "Screen-Positive" Men on Each Measure for the Italian and Australian Samples

Measure	Italian sample (<i>N</i> = 144–145)	Australian sample (<i>N</i> = 183–185, with exceptions ^a)	χ^2	Relative risk (RR)/percentage point difference
EPDS Depression				
10+ (Australian validated score)	2.1% (± 1.9) ^b	8.4% (± 4.4) ^a	20.82 ^{c**}	4.0 (RR)
13+ (Italian validated score)	0.7% (± 1.1)	2.8% (± 2.6) ^{a,b}	33.37 ^{c**}	4.0 (RR)
EPDS Distress				
EPDS 6+	13.8% (± 4.7)	36.4% (± 7.6) ^a	38.75 ^{**}	2.6 (RR)
MGMQ				
MGMQ Distress ^d	20.8% (± 5.5)	42.1% (± 5.9)	109.07 ^{**}	21.3% point difference
MGMQ Lower Bother Impact ^e	16.7% (± 5.1)	37.7% (± 5.9)	74.31 ^{**}	20% point difference
MGMQ Higher Bother Impact ^f	2.8% (± 2.3)	10.9% (± 3.8)	19.25 ^{**}	3.9 (RR)

Note. 90% Confidence intervals calculated. RR of 1.9 or more is a medium effect size; 18% point difference or more is a medium effect size. Power for detecting statistical significance at α of .1 ranged from 82% to 99% for comparisons using the larger *N* for the Australian sample; for the smaller Australian *N* comparisons, power ranged from 38% to 90%.

^a *N* = 107. ^b These rates are based on the validated depression threshold for the other cultural group, not for this group. Data comparison is therefore for illustrative purposes only. ^c Yates corrected. ^d MGMQ Distress screen positive: endorsing "yes" or "possibly." ^e MGMQ Lower Bother Impact screen positive: endorsing "a little," "moderately," or "a lot." ^f MGMQ Higher Bother Impact screen positive: endorsing "moderately" or "a lot."

^{**} $p < .001$.

Research Question 2: Comparison of the MGMQ With the EPDS

Table 3 shows that the MGMQ Distress and lower Impact thresholds detect around a half of the men in the Italian sample screening positive on the EPDS Distress threshold (6 or more), and these measures also detected the only man screening positive for possible depression (13 or more). Table 4 shows that in the Australian sample, the MGMQ Distress and lower Impact thresholds detected around two thirds of those men screening positive on the EPDS Distress threshold (6 or more), and eight of the nine men screening positive for possible depression (10 or more).

In both samples, the higher MGMQ Impact threshold ("moderately" bothered or more) detected only a minority (or none) of the men screening positive on the EPDS, though it seemed to fare better in this respect in the Australian sample than in the Italian sample (Table 4—Australian detection: 17.9%–33%; Table 3—Italian detection: 5%–0%). Of note is that none of the men in the Italian sample, but five of the men in the Australian sample (only one of which also completed the EPDS), endorsed that they felt bothered "a lot" on the MGMQ Impact question. The remain-

ing men who reached this higher Bother Impact threshold did so because they had endorsed that they were bothered "moderately" by their feelings.

Table 3 shows that the EPDS, using its Italian depression threshold (13 or more), only classified as screen positive one of the 24 men in the Italian sample saying that they were "a little bit" bothered or more by how they were feeling, and none of the four men saying that they were bothered "moderately" by how they were feeling, on the MGMQ. The EPDS Distress threshold (6 or more) however classified about a third of these men as also being screen positive. Table 4 shows that in the Australian sample, the EPDS Depression threshold (10 or more) classified as positive around a quarter of the men reporting that they were a little bit, moderately, or a lot bothered by their feelings on the MGMQ. The distress threshold (6 or more), however, classified as positive the majority of these men (65.8%–87.5%).

Research Question 3: Reasons for the Distress

Although there were a variety of reasons why men said they were feeling distressed, the major differences between the two

Table 3

*Detection of Screen-Positive Men by Each Measure (Italian Sample: *N* = 143–144)*

Percentage detected by	If screen positive on				
	EPDS 6+ ^a (<i>N</i> = 20)	EPDS 13+ ^b (<i>N</i> = 1) ^c	MGMQ Distress ^d (<i>N</i> = 30)	MGMQ Lower Bother Impact ^e (<i>N</i> = 24)	MGMQ Higher Bother Impact ^f (<i>N</i> = 4) ^g
EPDS 6+ ^a	n/a	n/a	33	33	25 ^g
EPDS 13+ ^b	n/a	n/a	3	4	0 ^g
MGMQ Distress question ^d	50	100	n/a	n/a	n/a
MGMQ Lower Bother Impact ^e	40	100 [*]	n/a	n/a	n/a
MGMQ Higher Bother Impact ^f	5	0 [*]	n/a	n/a	n/a

Note. EPDS = Edinburgh Postnatal Depression Scale; MGMQ = Matthey Generic Mood Questionnaire; n/a = not applicable. Differences in detection rates between the EPDS and MGMQ of at least 18 percentage points are clinically significant (see "Analyses considerations").

^a Australian validated screen-positive score for detection of anxiety or depression disorders in men ("+" indicates "or more")—see text. ^b Italian validated screen-positive score for detection of depression disorders in men ("+" indicates "or more"). ^c *N* is only 1. ^d MGMQ Distress question screen positive: endorsing "yes" or "possibly." ^e MGMQ Lower Bother Impact screen positive: endorsing "a little bit," "moderately," or "a lot." ^f MGMQ Higher Bother Impact screen positive: endorsing "moderately" or "a lot." ^g Interpret with caution, as the *N* to be detected is small (nine men or fewer).

Table 4

Detection of Screen-Positive Men by Each Measure (Australian Sample: N = 107)

Percentage detected by	If screen positive on				
	EPDS 6+ ^a (N = 39)	EPDS 10+ ^b (N = 9) ^c	MGMQ Distress ^d (N = 44)	MGMQ Lower Bother Impact ^e (N = 38)	MGMQ Higher Bother Impact ^f (N = 8) ^e
EPDS 6+ ^a	n/a	n/a	61.2	65.8	87.5 ^c
EPDS 10+ ^b	n/a	n/a	18.2	21.1	25 ^c
MGMQ Distress question ^d	69.2	88.9 ^c	n/a	n/a	n/a
MGMQ Lower Bother Impact ^e	61.5	88.9 ^c	n/a	n/a	n/a
MGMQ Higher Bother Impact ^f	17.9	33 ^a	n/a	n/a	n/a

Note. EPDS = Edinburgh Postnatal Depression Scale; MGMQ = Matthey Generic Mood Questionnaire; n/a = not applicable. Of the whole Australian sample of 185, only 107 also completed the EPDS.

^a Australian validated screen-positive score for detection of anxiety or depression disorders in men (“+” indicates “or more”). ^b Australian validated screen-positive score for detection of depression disorders in men (“+” indicates “or more”). ^c Interpret with caution, as the N to be detected is small (eight or nine men). ^d MGMQ Distress question screen positive: endorsing “yes” or “possibly.” ^e MGMQ Lower Bother Impact screen positive: endorsing “a little bit,” “moderately,” or “a lot.” ^f MGMQ Higher Bother Impact screen positive: endorsing “moderately” or “a lot.”

samples were that a greater proportion of the Italian sample than the Australian sample said it was related to concerns related to their work, including the lack of security of their employment (66% vs. 20% of those feeling distressed). Also of note is that some of the men in the Australian sample cited worries about the deterioration in the relationship with their partner and her family (11% of those giving reasons), but this was not cited by any of the men in the Italian sample.

Research Question 4: Wish to Talk to a Health Professional

As previously explained, none of the men in the Australian sample, and only some of the men in the Italian sample (N = 43), was asked this question. Of these, one man said “possibly” and one said “yes” to this question, that they would like to talk to a health professional about how they were feeling. On the MGMQ Impact question, both of these men had endorsed “a little bit” bothered, whereas on the EPDS, they had scored 5 and 10, thus being below the Italian validated screening threshold of 13 or more for the detection of male depression on this measure.

Discussion

Limitations

As previously mentioned, the EPDS Distress threshold of 6 or more has only been validated in an Australian sample, and thus applying the same threshold to the Italian sample should be treated with caution. The small number of men screening positive in both samples on the higher thresholds, on both the EPDS and MGMQ, also limits the confidence one can have in the comparative rates and concordance findings. In addition, as not everyone in the Australian sample completed the EPDS, together with the limited data on the MGMQ’s “Reason for Distress” and “Wish for Referral” questions for both samples, this limits our understanding of the utility of these questions. The participant samples are also likely to be skewed compared with the population with respect to the support they provide to their partner, and possibly the quality of the marital relationship, given that nearly all of the participants in

both samples were men attending the health services with their partner.

Men’s Rates of Distress in the Italian and Australian Samples

In discussing the rates of screen-positive men in both samples, an overriding caveat is that because the rates are based on just a single administration of the respective measures, these will include men with both transient and enduring distress (Matthey, 2016). It is likely that the rates should therefore be reduced, as has been suggested for women (Matthey & Ross-Hamid, 2012), to have a more accurate picture of substantial ongoing mood difficulties in men.

Given the above caveat, the men in Italy had a very low rate of possible depression (0.7%), as measured by the EPDS. This replicates the findings from two recent studies which also found low rates of possible depression in Italian men (Molgora et al., 2017; and S. Molgora, personal communication, June 12, 2018: antenatal rate of 3.2%, 4–6 weeks’ postpartum rate of 1.6%; Clavenna et al., 2017: 8–13 weeks’ postpartum rate of 1.7%). Using a different cutoff score of 9 or more, Vismara et al. (2016) reported that 16% of fathers scored high at 3 months postpartum and 13.8% at 6 months postpartum. The higher rate of 13.8% found in the Italian sample reported in Table 2 using the EPDS Distress cutoff score of 6 or more is also in line with another Italian study (Currò et al., 2009), which reported that 12.6% of new fathers scored 8 or more in the first few weeks postpartum. For the men in Australia, the rate screening positive on the EPDS using the validated score of 10 or more (8.4%) was also similar to those found in other Australian antenatal studies with men (see review by Leach et al., 2016).

Thus, the rate of screening positive on the EPDS using their respective validated depression cutoff scores was substantially lower for the men in Italy than the men in Australia (Table 2: 0.7% vs. 8.4%). If the Italian screen-positive score was lowered to that of 10 or more, to take into account the possible presence of minor depression, the rates are still substantially different (Table 2: 2.1% vs. 8.4%), with these differences still being clinically meaningful.

This difference between the Italian and Australian samples is also evident on the MGMQ, in both the proportion screening

positive on the lower Bother Impact threshold (Table 2: 16.7% vs. 37.7%) and higher Bother Impact threshold (Table 2: 2.8% vs. 10.9%). Of note also is that none of the men in the Italian sample endorsed that they felt “a lot” bothered by their feelings, compared with around 6.5% (Table 4: $N = 5$ of the eight men meeting the higher Bother Impact threshold) of the men in the Australian sample who screened positive on the distress question.

This replication of the previous findings regarding the lower rate of men scoring positive on the EPDS compared with those in Australia, together with our finding that this was also evident on the MGMQ, is thus worthy of further consideration. Of note is that in a recent report of rates of mood difficulties in adults, Australians (male and female) were reported to have marginally higher rates of depression (5.9% vs. 5.1%) and slightly higher rates of anxiety (7.0% vs. 5.0%) than Italians (World Health Organization, 2017), though these differences cannot be considered clinically meaningfully different. Another report showed the gap to be greater when comparing the 12-month prevalence rates of depression between adults in New Zealand, a country somewhat similar to Australia, and those in Italy (10.6% vs. 6.7%; Kessler & Bromet, 2013). Whether these discrepancies are greater for men than women, however, could not be ascertained from these reports, but they appear to point toward our findings being consistent with those from larger aggregations of data when comparing adults between these two countries.

Whether these differences are because men in Italy are genuinely more “happy” than their counterparts in Australia, or because they are less willing to express their negative feelings to health professionals than men in Australia, would need to be explored in further research incorporating qualitative methodology. It is interesting to note however that there appears to be a shift in Australia to men being more willing to express negative emotions than they were previously, possibly owing to the great amount of ongoing health promotion activity trying to reduce the stigma surrounding mental health problems (Hall & Partners–Open Mind, 2012). This type of stigma-reducing activity has not been so heavily conducted in Italy, and a national survey of Italian adults found that 75% of the sample considered that depression should be experienced in isolation, and not talked about, though this study did not unfortunately break down this finding by sex (Munizza et al., 2013). It is thus possible that the differences in rates are in part owing to differences in men’s willingness to express negative emotions between the two countries. Though it is also possible that Italian men do not experience such strong negative emotions compared to men in Australia. This could be because Italians in Italy generally have a closer knit family structure than men in Australia, and may thus receive greater emotional support (Special Broadcasting Service, 2019).

Comparison of the MGMQ With the EPDS

The MGMQ performs moderately to well against the EPDS in terms of its sensitivity at detecting men scoring high on the EPDS across various screen-positive scores in the two samples. The EPDS also performs well in some respects, in that most of those who say that they are only “a little bit” bothered on the MGMQ in the Italian sample screen negative on the EPDS. However, the fact that the two men in this sample who did request to speak to a health professional did not screen positive on the EPDS possible

depression threshold, and so would have been “missed” using the EPDS, would be a concern to clinical services. Even with the Australian validated distress threshold of 6 or more, three of the four men in the Italian sample saying that they were “moderately bothered” by their feelings would also not have been detected by the EPDS.

In the Australian sample, a similar pattern was noted for the validated depression threshold on the EPDS (10 or more), which missed six of the eight men saying on the MGMQ that they were moderately bothered by how they were feeling. The validated distress threshold of 6 or more, however, performed much better with the EPDS, detecting seven of these eight men.

These patterns make sense when one considers that the MGMQ is attempting to detect men (or women) with any type of emotional difficulty, not just depression. Thus, not surprisingly, a validated “distress” EPDS screen-positive score should perform better in these comparisons than the validated thresholds for possible depression, as it does in the Australian sample. The fact that it still performs weakly in the Italian sample may thus be a reflection that this distress screen-positive threshold is not the optimal one for the Italian community of men.

Construct validity is evident for the MGMQ when considering the Reasons for Distress data, with men in the Italian sample predominantly reporting work-related stresses, which fits with the current greater economic uncertainty in their country, with the unemployment rates being 11.6% and 5.6% in Italy and Australia, respectively (Trading Economics, 2018). The greater concern for the men in the Australian sample regarding their relationship with their in-laws may also reflect the differences in family functioning between Italian families and families from other cultures. Italian couples are possibly more used to the involvement of parents and in-laws in their day-to-day lives (Delvecchio, Di Riso, & Salcuni, 2016), and the strong emotional closeness of Italian families, together with its importance to the family, is well recognized (Claes et al., 2018). This may account for the difference between the two groups in either the expression of family relationship difficulties or the experience of such difficulties. In addition, the discrepancy in screen-positive rates found on the EPDS between men in Italy and men in Australia is also evident on the MGMQ, which provides some concurrent validity for this newer measure.

The Wish for Referral question also appears to be clinically useful. The fact that two Italian men endorsed this question, even though both of them screened negative on the EPDS Depression threshold, shows that it is a helpful clinical question to ask within a screening setting. It appears that this direct question can enhance a service’s ability to respond to the emotional health needs of men, which may not happen if services use screening measures that just rely on the endorsement of a select narrow range of negative emotional symptoms, as occurs with most mood screening scales, including the EPDS.

As stated in the introduction, a complication with using the EPDS with men (and also with women) is deciding which screen-positive score should be used. Each of the six validation studies for men has reported different screen-positive scores, making it extremely confusing as to how to use this scale effectively—and validly—in settings with men from different cultural backgrounds, and also which screen-positive score to use antenatally and which to use postnatally. On the MGMQ, however, there are only two possible main screen-positive thresholds, that of “a little bit”

bothered, or “moderately” bothered (this assumes that the most stringent threshold of “a lot” bothered would not be the minimum response required by a service), regardless of culture and when, in the perinatal period, the measure is given. In the clinical setting, this can be further refined by using the “Reasons for Distress” and “Wish for Referral” questions, which will assist in deciding if a further evaluation of the man’s mood is indicated. Both of these questions may also assist men with significant mood difficulties in recognizing some of the issues they are experiencing and may help them to reach out for professional help if they want this.

The response option of “possibly” in the Distress and Wish for Referral questions was designed by the first author specifically with men in mind, as clinical experience indicates that a simple “yes/no” option may deter many men from endorsing “yes,” particularly those who hold the traditional masculine beliefs that help-seeking is seen as “weak” (Olliffe & Phillips, 2008). They may however be more prepared to endorse “possibly.” It is interesting to note therefore that the majority of men in both samples endorsing this Distress question did indeed endorse the “possibly” response option. Further research however would be needed to investigate what proportion of such men, if only given a “yes/no” option, would then have endorsed the “no” option, and thus possibly be missed by a clinical service. Having the “Wish for Referral” question is also seen as especially important, as it has been well documented that men generally do not seek professional help for emotional health problems until their suffering is substantial, if indeed they seek it at all (Addis & Mahalik, 2003). Health services need to therefore be more proactive in reaching out to men, as per the MGMQ’s “Wish for Referral” question, rather than waiting for them to seek help (Olliffe & Phillips, 2008).

Conclusion

Rates of possible depression or distress are statistically and clinically significantly lower for men in Italy than for those in Australia on both the EPDS and the MGMQ. The MGMQ appears to be a useful instrument for screening for a range of mood difficulties in men in both countries, performing moderately to well against the EPDS, and provides the men themselves, and health-care professionals, with useful information to help determine if further assessment is required.

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