

Are emotionally intelligent people happier? A meta-analysis of the relationship between emotional intelligence and subjective well-being using Chinese samples

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To assess an overall correlation between emotional intelligence (EI) and subjective well-being (SWB) within Chinese culture, accounting for possible moderating factors, we conducted a meta-analysis of 119 correlations obtained from 62 studies with a total sample size of 29,922. The results uncovered a moderately positive correlation, $r = .32$, 95% CI [0.29, 0.36], $p < .001$, between EI and SWB. The strength of the correlation was moderated by EI stream, SWB component, participant's age, and participant's employment status. Specifically, this association was stronger when EI was measured as self-report mixed EI, $r = .49$, and self-report ability EI, $r = .32$, than when it was measured as performance-based ability EI, $r = .08$. In addition, EI was more strongly associated with the cognitive components of SWB, $r = .32$, than with the affective component of SWB, $r = .29$, and the EI–SWB association was stronger in adults, $r = .33$, than in adolescents, $r = .25$. Furthermore, EI was more closely related to SWB in working adults, $r = .43$, compared to students, $r = .29$, and EI was almost equally associated with SWB across males and females, $\beta = -.08$, $p = .55$. The results, as well as their theoretical and practical implications, are discussed in detail with reference to relevant cross-cultural theories and comparative empirical findings.

Keywords: Chinese samples, emotional intelligence, meta-analysis, moderators, subjective well-being.

Subjective well-being (SWB), as an important indicator of social processes, typically refers to people's judgments of life satisfaction and emotional well-being in terms of positive and negative affect (Diener, Oishi, & Tay, 2018). Previous studies have reported a series of beneficial outcomes related to higher levels of SWB, such as better health status (Diener, Pressman, Hunter, & Delgado-Gil, 2017), closer social relationships (Moore, Diener, & Tan, 2018), more altruistic behaviours (Tian, Du, & Huebner, 2015), and better workplace performance (Tenney, Poole, & Diener, 2016). Therefore, SWB has become a popular topic for both research fellows and the public in recent decades (Costanza et al., 2014, Diener et al., 2018).

In this study, we focused on the relationship between emotional intelligence (EI) and SWB. EI is usually defined as the ability to perceive, appraise, express, and regulate emotions (Mayer, Roberts, & Barsade, 2008), or as a constellation of emotional skills, cognitive abilities,

and personality traits (Petrides, Sangareau, Furnham, & Frederickson, 2006). Among the various antecedents of SWB, recent studies have consistently reported positive associations between EI and SWB (e.g., Di Fabio & Kenny, 2016; Kong, Gong, Sajjad, Yang, & Zhao, 2019), even after controlling for the effect of higher order personality traits (Gannon & Ranzijn, 2005; Koydemi & Schütz, 2012) and cognitive ability (Furnham & Petrides, 2003). Recently, Sánchez-Álvarez, Extremera, and Fernández-Berrocal (2016) conducted a meta-analytic study and found a moderately positive correlation, $r = .32$, between EI and SWB, with the correlation being stronger when EI was measured by self-report mixed EI instruments and SWB was measured as life satisfaction.

Given that Sánchez-Álvarez et al.'s (2016) meta-analytic study mainly involved Western college samples, it is unclear whether their conclusions can be generalised to non-Western samples. Cultural differences in emotional expression and the implication on individual well-being have been demonstrated in a long history of research (Markus & Kitayama, 1991; Soto, Perez, Kim, Lee, & Minnick, 2011; Suh, Diener, Oishi, & Triandis, 1998). Regarding emotional expression, unlike Western culture (individualistic/independent focus), which values free and open emotional expression, traditional Chinese culture (collectivistic/interdependent focus) encourages

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emotional control and suppression (Soto *et al.*, 2011; H. Zhang & Wang, 2011), as reflected in the commendatory idioms “沉着冷静” (“Stay calm and dispassionate.”) and “不动声色” (“Do not change voice and expression when experiencing emotional fluctuations.”). Therefore, the ability to make subtle distinctions within emotion categories, recognise vague or unclearly expressed emotions by others, and effectively regulate one’s own or others’ feelings and emotions may be especially important for Chinese people’s interpersonal relationship—a key predictor of their SWB (Kang, Shaver, Sue, Min, & Jin, 2003; Lu & Shih, 1997).

Regarding cultural differences in how EI influences individual well-being, traditional Chinese culture cultivates an interdependent view of the self and others, and emphasises harmony and obligation as part of people’s core value (Kim, Sherman, Ko, & Taylor, 2006; Markus & Kitayama, 1991). Therefore, individuals in collectivistic culture (e.g., China) pay “considerable attention to normative concerns” when evaluating their individual well-being (Suh, 2000, p. 71), rather than primarily focusing on their internal emotional experiences like individuals in Western culture do (Suh *et al.*, 1998). Accordingly, when considering its implication on individual SWB, the ability to experience, express, and regulate one’s own emotions may not be as important for Chinese people as it is for individuals in Western culture.

Taken together, traditional Chinese culture (collectivistic/interdependent focus) may have mixed implication on the association between EI and SWB, and Chinese individuals may experience stronger (emotion expression consideration) or weaker (SWB evaluation consideration) association between EI and SWB. Based on the aforementioned considerations, the present study aimed to perform a meta-analysis of data from studies that used Chinese samples to examine the overall association between EI and SWB. To understand the subtle influence of assessment approaches, demographics, and publication type, our study also examined whether the EI stream, SWB component, participants’ demographic characteristics (i.e., gender, age, and employment status), and publication type could moderate the reported relationship between EI and SWB.

EI and SWB

It has been well-established that EI is positively associated with SWB (Luo & Jin, 2016; Sánchez-Álvarez *et al.*, 2016; B. Wang & Liang, 2020). Generally, people with higher levels of EI are more likely to perceive stressful events as challenges rather than threats (Schneider, Lyons, & Khazon, 2013), are more able to effectively cope with social demands and interpersonal

conflicts (Zeidner, Matthews, & Roberts, 2012), and have closer social relationships and larger social support networks (Zeidner *et al.*, 2012). Over the long term, EI can positively impact SWB through two pathways: (a) increasing the frequency of positive emotions and (b) reducing the duration of negative emotions triggered by stressful events (Sánchez-Álvarez *et al.*, 2016; Zeidner, Matthews, & Roberts, 2009). Put simply, a higher level of EI can help an individual maintain positive affect longer and dissipate disturbing emotions quickly. Therefore, it is not surprising that people with higher levels of EI would experience greater life satisfaction, more positive affect, and less negative affect.

Moderating variables Regarding the EI–SWB Association

Although the positive association between EI and SWB is well-documented in published studies, the magnitude of this association varies across different research conditions. For example, Sánchez-Álvarez *et al.* (2016) found that the instruments used to measure EI and SWB could moderate the strength of an EI–SWB link. In addition, prior studies have found that demographic variables such as age, gender, and employment status can moderate the association between EI and some well-known outcomes, including academic performance (MacCann *et al.*, 2020), creativity (Xu, Liu, & Pang, 2019), and health (Luo & Jin, 2016; Martins, Ramalho, & Morin, 2010; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). Furthermore, a recent replication crisis in psychology has indicated that there may be a systematical bias in effect sizes reported in published articles when compared to unpublished studies (Aarts *et al.*, 2015). Therefore, we also examined the moderating roles of age, gender, employment status, and publication type in the strength of an EI–SWB link. The next section introduces these possible moderators in detail.

EI Stream

Historically, EI has been defined either as a cognitive ability or as a mixed constellation (Luo & Jin, 2016). Specifically, the ability model conceptualises EI as a set of emotion-related cognitive abilities, such as the abilities to perceive, appraise, express, and regulate self and others’ emotions (Mayer *et al.*, 2008). In contrast, the mixed model conceptualises EI as a constellation of emotional skills, personality traits, and motivational elements (Bar-On, 2006; Petrides *et al.*, 2006). With the accumulation of empirical evidence, some scholars have further proposed that the ability EI model can be further classified into two weakly related submodels: the performance-based ability EI model and the self-report ability

EI model (Ashkanasy & Daus, 2005; MacCann et al., 2020; Miao, Humphrey, & Qian, 2017; Sánchez-Álvarez et al., 2016).

Given the aforementioned literature, the present study classified EI in three separate streams: (a) performance-based ability EI, which is typically measured with the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002); (b) self-report ability EI, which is typically measured with the Schutte Emotional Intelligence Scale (EIS; Schutte et al., 1998) and the Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002); and (c) self-report mixed EI, which is typically measured with the Emotional Quotient Inventory (EQ-i; Bar-On, 1997) and the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides et al., 2006).

Numerous studies have shown stronger associations between self-report ability EI and self-report mixed EI with SWB indicators whereas performance-based ability EI has shown lower or null correlations (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Di Fabio & Kenny, 2016; Sánchez-Álvarez et al., 2016). For example, in a recent study conducted by Di Fabio and Kenny (2016), participants' performance in self-report mixed EI tests (i.e., EQ-i and TEIQue) was moderately and positively associated with SWB scores whereas their ability EI scores (i.e., MSCEIT) were not associated with SWB scores. Based on this evidence, we expected to find more significant associations between EI and SWB when the former was measured as self-report ability EI or self-report mixed EI than as performance-based ability EI.

SWB component. As mentioned earlier, SWB includes people's judgements of life satisfaction and emotional well-being, which has been categorised as cognitive (CWB) and affective (AWB) components, respectively. Although EI has been positively associated with SWB, the magnitude of this association usually varies across different components of SWB. For example, although some studies have reported higher correlations between EI and CWB than EI and AWB (e.g., Yuan & Luo, 2014; Zhou, 2011), other studies have uncovered the opposite, finding that EI had a stronger association with AWB than with CWB (e.g., Koydemir & Schütz, 2012; Liu, Wang, & Lü, 2013). In addition, several studies have reported that the correlations between EI and CWB are approximately equal to the correlations between EI and AWB (e.g., Chen, Peng, & Fang, 2016; Zeidner & Olnick-Shemesh, 2010). Therefore, current findings regarding the strength of correlations between EI and the different components of SWB are still inconsistent. To clarify this issue, we examined whether the specific SWB component measured (CWB, AWB, or

mixed SWB) could moderate the magnitude of an EI-SWB link.

Gender. Previous studies on gender difference in EI-SWB associations have yielded mixed results. On one hand, males in general have superior ability in regulating and managing emotion during interpersonal interactions (Mikolajczak, Luminet, Leroy, & Roy, 2007), so EI has a stronger association with positive interpersonal relationships in males than in females (Brackett, Warner, & Bosco, 2005). In turn, their positive interpersonal relationships contribute to higher levels of SWB (Li & Lau, 2012; Lu & Shih, 1997). On the other hand, females are usually more relationship-oriented than males (Helgeson, 1994), so interpersonal relationships can exert a more influential effect on female's SWB than on male's SWB (Joshani, 2018). Based on these studies, it is difficult to draw any conclusion about whether EI would be more strongly associated with SWB in females or in males. To answer this question, we examined the moderating role of gender in the relationship between EI and SWB.

Age. It is well-documented that EI, especially the components of understanding and regulating emotions, increases with the accumulation of life experience (Goldenberg, Matheson, & Mantler, 2006; Kong, 2017; Sliter, Chen, Withrow, & Sliter, 2013; Tottenham, Hare, & Casey, 2011; Tsaousis & Kazi, 2013). Meanwhile, as people get older, they usually have to deal with more complicated interpersonal relationships and bear higher levels of stress from multiple areas in life (e.g., work, finance, childbearing, etc.). Therefore, EI is likely to be more urgently needed for adults to cope with interpersonal conflicts and stressful life events (Luo & Jin, 2016). In another words, EI may exert a stronger effect on SWB in adulthood than in adolescence. To understand this issue, we examined the moderating role of age in the association between EI and SWB.

Employment status. Employment status may moderate the relationship between EI and SWB. A number of studies have reported moderate to large EI-SEB correlations in working adults (e.g., Wei, 2014; S. Zhang & Shi, 2017) whereas others have found small to moderate EI-SEB correlations in samples mainly consisting of students (e.g., Chen, Yan, & Chen, 2018; Geng, 2018). To clarify this issue, we examined the moderating role of participants' employment status in the relationship between EI and SWB.

Publication type. In psychology, it is widely acknowledged that studies reporting "statistically significant or positive" results are more likely to be published than those reporting "nonsignificant or negative" results

(Aarts *et al.*, 2015; Rosenthal, 1979). Accordingly, effect sizes reported in peer-reviewed journal papers tend to be systematically inflated and, in some cases, are even twice as large as the actual level (Aarts *et al.*, 2015). To assess whether this phenomenon exists in the EI–SWB association, in this study we examined the moderating role of publication type (*i.e.*, journal papers vs. master's theses) in the relationship between EI and SWB.

Purpose of the Present Study

The objective of this study was to synthesise the findings of previous studies of Chinese population samples to explore the EI–SWB correlation and to identify potential moderators that may influence the strength of this relationship. Specifically, we aimed to (a) calculate an aggregate effect size for the EI–SWB correlation and (b) explore whether EI stream, SWB component, and participants' demographics (*i.e.*, gender, age, and employment status) could moderate the strength of this relationship.

Method

Literature Search Process

To identify studies on EI and SWB, we systematically searched literature published from January 1990 to July 2020, using the following electronic databases: Chinese Selected Doctoral Dissertations and Master's Theses Full-Text Databases, China National Knowledge Infrastructure, Chongqing VIP Information Co., Ltd., Wanfang Data, Web of Science, Google Scholar, Taylor & Francis, and EBSCO. Indexed keywords included terms reflecting EI (*emotional intelligence, emotional ability, emotion recognition, emotion perception, emotion understanding, and emotional regulation*) and SWB (*subjective well-being, life satisfaction, positive affect, negative affect, and happiness*). Although SWB can be broadly defined as a concept that includes emotional, psychological, and social well-being, the present meta-analytic study employed a relatively narrow conceptual framework and mainly focused on four indicators of SWB: *life satisfaction, positive affect, negative affect, and happiness* (Keyes & Magyar-Moe, 2003). In addition, we only considered general evaluation of life satisfaction in this study; thus, domain-specific life satisfaction indicators (*e.g.*, job satisfaction, health satisfaction, and school satisfaction) were excluded. Articles meeting the following criteria were included: (a) use Chinese samples; (b) study the EI–SWB link; (c) measure EI, represented by any of the keywords mentioned earlier; (d) measure SWB, represented by any of the keywords mentioned earlier; (e) report the correlation coefficient (*r*) or any statistic value that can be

transformed to *r*; and (f) report the sample size. As shown in the PRISMA flow diagram (Moher, Liberati, Tetzlaff, & Altman, 2009) (see Figure 1), we ultimately identified 119 correlations from 62 studies, with a combined sample size of 29,922 participants.

Coding

We coded studies with the following information: author (s) and publication year, sample size, percentage of male participants, age, employment status, publication type, EI stream, SWB component, effect size (*r*), and quality score (see Table 1). For studies reporting several independent correlations, we coded each correlation separately.

There are six potential moderators in this study: (a) EI stream, (b) SWB component, (c) age, (d) gender, (e) employment status, and (f) publication type. EI measures were coded as “performance-based ability EI,” “self-report ability EI,” and “self-report mixed EI.” SWB components were coded as “AWB,” “CWB,” and “mixed SWB” (*i.e.*, including both AWB and CWB). Age was coded as “adolescents” (10–18 years old) and “adults” (19 and older). Gender was represented as the ratio of male participants. Employment status was coded as “employees,” “students,” and “mixed sample” (*i.e.*, consisting of both employees and students). Publication type was coded as “journal paper” or “master thesis.”

Evaluation of Literature Quality

The first and the second authors of this article independently assessed the quality of each study with the Newcastle-Ottawa Scale adapted for cross-sectional studies (Modesti *et al.*, 2016). Specifically, this scale includes the following indicators: representativeness of the sample (1 point), satisfactory sample size (1 point), satisfactory response rate (1 point), validated measurement tool (2 points), controls for confounding factors (2 points), independent blind assessment (2 points), and appropriate statistical test (1 point). The highest possible score on this scale is 10 points (9–10 = *very good*, 7–8 = *good*, 5–6 = *satisfactory*, 0–4 = *unsatisfactory*) (Wiss & Brewerton, 2020). Finally, the two researchers gave the same scores for 88.71% of the studies (55 of 62) and reached a consensus for the remaining seven studies through discussion. To ensure the quality of the meta-analysis, we only analysed studies that scored 7 points or higher. Accordingly, the eight studies that scored 6 points or lower were excluded from data analysis.

Data Analysis

Effect size index. The correlation coefficient (*r*) was the primary effect size index in the current meta-

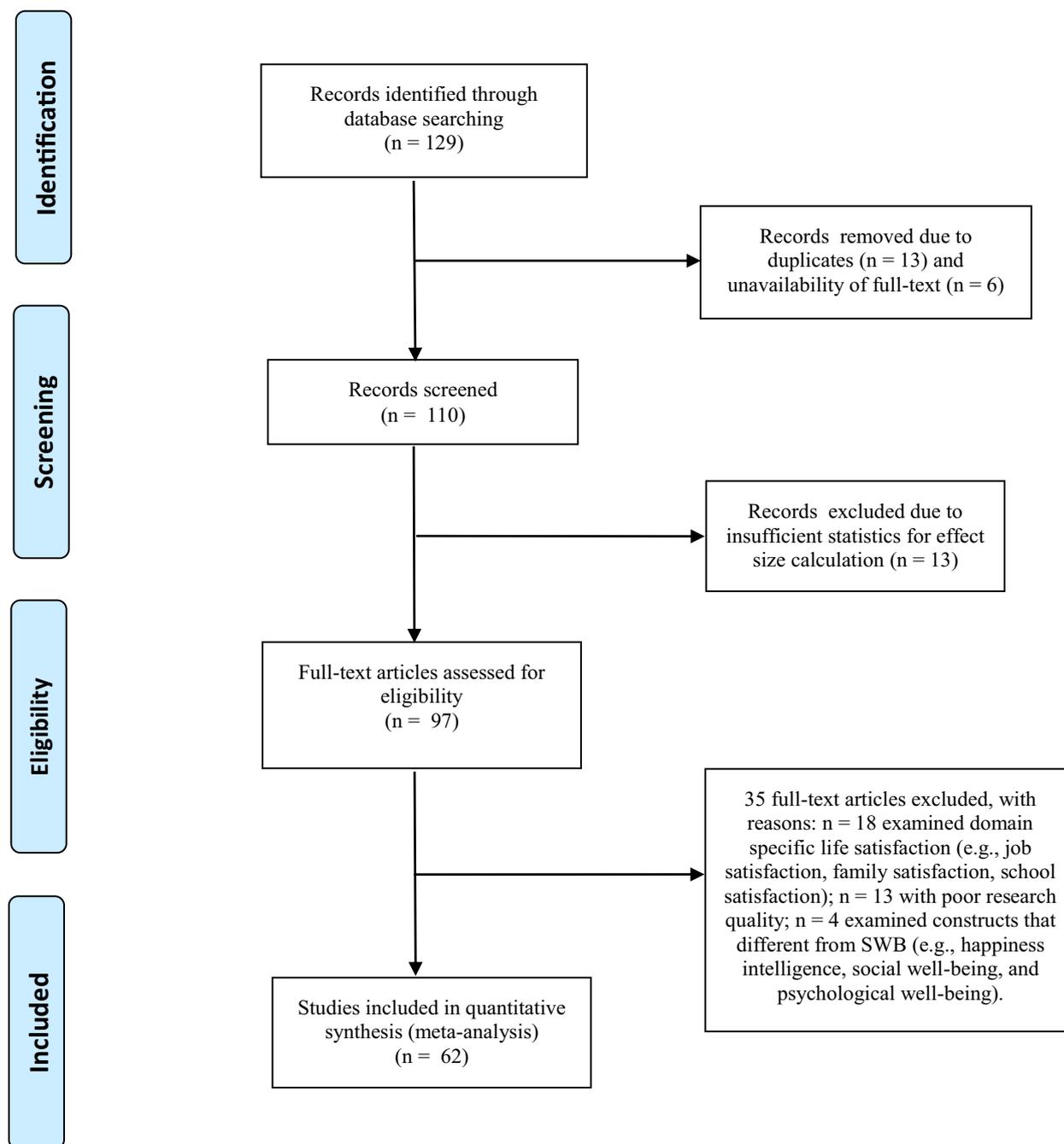


Figure 1 The PRISMA flow diagram of literature selection process.

analysis. Following Borenstein, Hedges, Higgins, and Rothstein's (2009) recommendation, we converted r to Fisher's z prior to data analysis and then converted the analysis results (e.g., summary effect and confidence intervals [CI]) back to r for ease of interpretation.

Meta-analysis with robust variance estimates. In the present study, we conducted a meta-analysis with

robust variance estimates (RVE; Hedges, Tipton, & Johnson, 2010), a method that can effectively accommodate the multiple sources of dependencies in cases when there are several effect sizes in one study. Of the 62 studies included in the current meta-analysis, none of them included multiple substudies whereas 35 studies (56.45%) provided multiple effect sizes. Given this situation, we used the correlated effects weighting scheme, in

Table 1
Characteristics of 62 Studies Included in the Meta-Analysis of Chinese Samples Regarding Emotional Intelligence (EI) and Subjective Well-Being (S-WB)

Study ID	N	Male Ratio	Age	Employment Status	Publication Type	EI Instruments	EI Measures	SWB Components	SWB Measures	r	Quality score
Abudurexiti (2011)	254	0.56	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985) PA; Diener et al. (2000) NA; Diener et al. (2000)	CWB AWB AWB	.23 .29 .21	7
Chen et al. (2018)	967	0.00	Adults	Employees	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Fan (1999) PA; Kuppens et al. (2006) NA; Kuppens et al. (2006)	CWB AWB AWB	.48 .50 -.23	7
Chen (2014)	207	0.59	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Campbell et al. (1976) AWB; Campbell et al. (1976)	CWB AWB	.30 .38	7
Chen, Yan, and Chen (2018)	481	0.50	Adults	Students	Journal paper	WLEIS; Wong & Law (2002)	SR_ability	LS; Diener et al. (1985)	CWB	.26	9
Chen, Peng, and Fang (2016)	337	0.32	Adults	Mixed samples	Journal paper	WLEIS; Wong & Law (2002)	SR_ability	LS; Diener et al. (1985) PANAS; Watson et al. (1988)	CWB AWB	.41 .41	9
Di (2014)	343	0.46	Adults	Employees	Master thesis	WLEIS; Wong & Law (2002)	SR_ability	LS; Diener et al. (1985)	CWB	.33	9
Feng, Yan, Hu, and Su (2015)	364	0.00	Adults	Employees	Journal paper	WLEIS; Wong & Law (2002)	SR_ability	LS; Diener et al. (1985)	CWB	.40	8
Fu, Ye, and Wen (2012)	1,657	0.48	Adolescents	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985)	CWB	.30	7
Geng (2018)	365	0.51	Adults	Students	Journal paper	WLEIS; Wong & Law; (2002)	SR_ability	PA; Bradburn (1969) NA; Bradburn (1969) LS; Diener et al. (2000) PA; Diener et al. (2000)	AWB AWB CWB AWB	.46 -.13 .20 .15	7
Guo, Fan, and Hu (2014)	200	0.52	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977) GWB	AWB AWB mixed SWB	.20 .39	7

Table 1 (continued)

Study ID	N	Male Ratio	Age	Employment Status	Publication Type	EI Instruments	EI Measures	SWB Components	SWB Measures	r	Quality score
Han (2010)	417	0.36	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.31	7
Hu (2020)	454	0.49	Adolescents	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	PA; Diener et al. (2000)	AWB	.38	7
Huang and Lee (2019)	260	0.35	Adults	Students	Journal paper	EIS; Chen, (2008)	SR_ability	NA; Diener et al. (2000)	AWB	-.25	9
Huang (2016)	310	.36	Adolescents	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985)	CWB	.44	7
Huang, Shi, and Liu (2018)	412	0.47	Adults	Students	Journal paper	EIS; Jordan & Lawrence, (2009)	SR_ability	NA; Watson et al. (1988)	AWB	-.12	7
Huang (2011)	412	0.29	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	SWB; Banks et al. (1980)	mixed SWB	.31	7
Kong, Gong, Sajjad, Yang, and Zhao (2019)	748	0.48	Adults	Mixed samples	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (2000)	CWB	.30	7
Law, Wong, Huang, and Li (2008)	102	0.78	Adults	Employees	Journal paper	MSCEIT; Mayer et al. (1999)	P_ability	PA; Kuppens et al. (2008)	AWB	.37	9
Li and Zheng (2014)	585	0.54	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	NA; Kuppens et al. (2008)	AWB	-.27	8
Li (2017)	490	0.56	Adolescents	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985)	CWB	.17	7
Liang and Cheng (2012)	336	0.40	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	PA; Kuppens et al. (2006)	AWB	.38	7
								NA; Kuppens et al. (2006)	AWB	-.21	7
								GWB; Fazio, (1977)	mixed SWB	.19	7
								LS; Diener et al. (1976)	CWB	.12	7
								AWB; Campbell et al. (1976)	AWB	.18	7

Table 1 (continued)

Study ID	N	Male Ratio	Age	Employment Status	Publication Type	EI Instruments	EI Measures	SWB Components	SWB Measures	Quality score	
Liang and Wang (2018)	1,155	0.45	Adolescents	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	PA; Watson et al. (1988) NA; Watson et al. (1988)	AWB AWB	.23 -.17	7
Liu and Miao (2010)	208	0.49	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Miao, (2003) PA; Miao, (2003) NA; Miao, (2003)	CWB AWB AWB	.32 .35 -.11	7
Liu Wang, and Lü (2013)	263	0.45	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	PANAS; Watson et al. (1988) LS; Diener et al. (1985)	AWB CWB	.40 .21	8
Lv (2009)	495	0.49	Adolescents	Students	Master thesis	MSCEIT; Mayer et al. (2001)	P_ability	PA; Lv, (2009) NA; Lv, (2009)	AWB AWB	.07 -.06	10
Lv, Wu, and Tong (2016)	360	0.46	Adults	Employees	Journal paper	TEIQUE; Petrides et al. (2001)	SR_mixed	PA; Lv, (2009) NA; Lv, (2009)	AWB AWB	.58 -.55	9
Ma and Wang (2013)	359	0.54	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1985)	CWB	.33	7
Mu (2013)	177	0.49	Adolescents	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.18	7
Pan (2010)	300	0.41	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.36 .31 -.03	7
Rong (2012)	443	0.59	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.25	7
Smith, Saklofska, and Yan (2015)	645	0.29	Adults	Students	Journal paper	TEIQUE-SF; Petrides & Furnham, (2006)	SR_mixed	LS; Diener et al. (1985)	CWB	.42	8
Song and Du (2017)	287	0.09	Adults	Employees	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.55	7
Tang (2020)	243	0.10	Adults	Employees	Journal paper	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.48	7
Tang, Zou, Cui, Li, and Li (2013)	714	0.43	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.39	7

Table 1 (continued)

Study ID	N	Male Ratio	Age	Employment Status	Publication Type	EI Instruments	EI Measures	SWB Components	SWB Measures	r	Quality score
Wang, Sun, Wang, and Li (2016)	958	0.43	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.27 .38 -.33	7
Wang, Chen, and Pang (2015)	548	0.19	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.39	7
Wang and He (2013)	322	0.53	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	PA; Watson et al. (1988) NA; Watson et al. (1988)	AWB AWB	.34 -.30	7
Wang, Liu, Zhai, and Zhu (2013)	253	0.29	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.08	7
Wang, Zou, Zhang, and Hou (2019)	462	0.49	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985) PA; Diener et al. (2000) NA; Diener et al. (2000)	CWB AWB AWB	.28 .36 -.25	9
Wang, Wang, Zhang, and Hao (2018)	351	0.76	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	SWB, Diener et al. (1985)	mixed SWB	.62	7
Wang (2010)	169	0.54	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	SWB; Campbell et al. (1976)	mixed SWB	.26	8
Wang and Kong (2014)	321	0.43	Adults	Mixed samples	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1985)	CWB	.22	9
Wei (2014)	126	0.00	Adults	Employees	Master thesis	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.42 .50 .26	7
Wei (2019)	978	.50	Adolescents	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	LS; Miao, (2003) PA; Miao, (2003) NA; Miao, (2003)	CWB AWB AWB	.45 .48 -.20	9
Wu, Chen, and Jen (2020)	439	.50	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1985)	CWB	.36	7

Table 1 (continued)

Study ID	N	Male Ratio	Age	Employment Status	Publication Type	EI Instruments	EI Measures	SWB Components	SWB Measures	r	Quality score
Xiang, Yuan, and Zhao (2020)	811	.27	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.42 .40 -.28	8
Xiong (2008)	509	0.61	Adults	Mixed samples	Master thesis	EIS; Xiong, (2008)	SR_ability	PA; Xiong, (2008) NA; Xiong, (2008) LS; Xiong, (2008)	AWB AWB CWB	.35 -.19 .25	7
Xiong and Liu (2017)	390	0.29	Adults	Students	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.26 .42 -.20	7
Ye, Yeung, Liu, and Rochelle (2019)	214	0.26	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	Happiness; Lyubomirsky & Lepper, (1999)	mixed SWB	.34	9
Yu (2012)	1,650	0.32	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	LS; Miao, (2003) PA; Miao, (2003) NA; Miao, (2003)	CWB AWB AWB	.40 .37 -.24	9
Yuan (2010)	552	0.40	Adults	Students	Journal paper	EIS; Ye, (2003)	SR_ability	LS; Diener et al. (1985) PA; Bradburn, (1969) NA; Bradburn, (1969)	CWB AWB AWB	-.13 .04 .18	7
Yuan and Luo (2014)	404	n.a.	n.a.	Employees	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1993) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.45 .39 .11	8
Zhang (2019)	1,001	0.13	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985)	CWB	.47	7
Zhang and Dong (2016)	371	0.42	n.a.	Employees	Journal paper	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988)	CWB AWB	.51 .45	7
Zhang, Li, and Schutte (2020)	217	0.30	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	SWB; Abdel-Khatek (2006)	mixed SWB	.36	9

Table 1 (continued)

Study ID	N	Male Ratio	Age	Employment Status	Publication Type	EI Instruments	EI Measures	SWB Components	SWB Measures	r	Quality score
Zhang, Sun, and Zhang (2014)	427	0.00	Adults	Employees	Journal paper	EIS; Schutte et al. (1998)	SR_ability	GWB; Fazio, (1977)	mixed SWB	.43	7
Zhang and Shi (2017)	667	0.49	Adults	Employees	Journal paper	WLEIS; Wong & Law (2002)	SR_ability	LS; Diener et al. (1985) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.43 .65 -.04	8
Zhang and Zhang (2018)	287	0.76	Adults	Employees	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Miao, (2003)	CWB	.60	7
Zhao, Kong, and Wang (2013)	496	0.42	Adults	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	LS; Diener et al. (1985) PA; Kuppens et al. (2006) NA; Kuppens et al. (2006)	CWB AWB AWB	.25 .36 -.31	8
Zhao et al. (2020)	714	0.50	Adolescents	Students	Journal paper	WLEIS; Wong & Law, (2002)	SR_ability	PA; Ebesutani et al. (2012) NA; Ebesutani et al. (2012)	AWB AWB	.024 -.15	9
Zheng and Wu (2019)	500	0.30	Adults	Mixed samples	Journal paper	EIS; Schutte et al. (1998)	SR_ability	SWB; Campbell et al. (1976)	mixed SWB	.39	9
Zhou (2011)	435	0.37	Adults	Students	Master thesis	EIS; Schutte et al. (1998)	SR_ability	LS; Diener et al. (1993) PA; Watson et al. (1988) NA; Watson et al. (1988)	CWB AWB AWB	.27 .14 -.11	7

Note. Authors in column 1 will only have a corresponding entry in the references when they are also cited in the main text. The full list of studies used for meta-analysis can be found in supplementary files. AWB = affective well-being; CWB = cognitive well-being; EIS = Emotional Intelligence Scale; GWB = general well-being; LS = life satisfaction; mixed SWB = SWB including both cognitive and affective components; NA = negative affect; n.a. = not available; mixed = samples consisting of both employees and students; P_ability = performance-based ability EI; PA = positive affect; PANAS = Positive Affect Negative Affect Scale; SR_ability = self-report ability EI; SR_mixed = self-report mixed EI; SWB = subjective well-being; TEIQue = Trait Emotional Intelligence Questionnaire; TEIQue-SF = TEIQue-short form; WLEIS = Wang and Law Emotional Intelligence Scale.

which dependency primarily arises from studies reporting multiple outcome variables (Tanner-Smith & Tipton, 2014), with the default assumed correlation, $r = .80$, among dependent effect sizes within each study.

Testing overall effects and moderating effects. To calculate the overall effect size, we conducted an intercept-only random-effects meta-regression analysis with RVE using the R package *robumeta* (Fisher & Tipton, 2015). The final intercept of this analysis can be interpreted as the correlated-effect adjusted and precision-weighted overall effect size.

The I^2 statistic was used to measure the degree of heterogeneity in effect sizes. According to Borenstein *et al.* (2009), an I^2 higher than 75% indicates high inconsistency across the findings of studies. In this case, we used the RVE approach to evaluate the effects of each moderator separately. There were one continuous moderator (male ratio) and five categorical moderators (EI stream, SWB component, age, employment status, and publication type). Continuous moderators were entered into the metaregression equation directly; the significance test regarding the regression coefficient for the predictor variable can be interpreted as a test of whether this variable could significantly moderate the EI–SWB association. To test the moderating effect of categorical variables, we first dummy-coded them and then

conducted the Wald test with small sample corrections using the R package *clubSandwich* (Pustejovsky, 2015). This test produces an F value, an atypical df , and a p value that indicates the significance of a moderating effect.

Examining publication bias. Publication bias refers to the phenomenon that the publication process usually favours studies that report “statistically significant or positive” results (Quinn-Nilas, 2020; Rosenthal, 1979). In this study, publication bias was examined by four indicators: moderation analysis of publication type, Orwin’s fail-safe N (Orwin, 1983), Egger’s regression test (Egger, Davey Smith, Schneider, & Minder, 1997), and trim-and-fill analysis (Duval & Tweedie, 2000). Specifically, moderation analysis of publication type directly examined whether the magnitude of effect sizes differed between journal papers and master theses. Orwin’s fail-safe N indicated how many null results studies, $r = 0$, were needed to reduce the present average effect size to a trivial level, $r = .10$ (Hyde & Linn, 2006). Egger’s regression test mainly examined whether the distribution of SE and sampling variance is symmetrical in a funnel plot (Egger *et al.*, 1997). Trim-and-fill analysis indicated how many missing studies have to be added to make the funnel plot symmetrical. Among these four indicators, only the first one could be

Table 2
Analysis of Moderating Factors in Chinese Studies Correlating Emotional Intelligence (EI) With Subjective Well-Being (SWB)

Moderator and Level	s	k	n	F	df	r	95% CI	p	I^2 %
EI Stream				0.94	0.13			.84	
Performance-based ability	2	3	597			.08	[0.00, 0.16]	.29	0
Self-report ability	60	113	28,782			.32	[0.29, 0.36]	<.01	89.02
Self-report mixed	2	3	1,140			.49	[0.36, 0.63]	.11	88.07
SWB Component				3.00	33.40			.06	
CWB	39	40	20,410			.32	[0.28, 0.37]	<.01	88.84
AWB	33	62	18,898			.29	[0.26, 0.32]	<.01	90.14
Mixed SWB	17	17	6,062			.35	[0.28, 0.42]	<.01	86.50
Age				6.41	8.50			.03	
Adolescents	9	19	6,430			.25	[0.20, 0.30]	<.01	89.83
Adults	51	95	22,717			.33	[0.30, 0.37]	<.01	88.22
Employment Status				4.93	4.83			.07	
Employees	13	23	4,948			.43	[0.36, 0.50]	<.01	90.21
Students	44	86	22,559			.29	[0.26, 0.33]	<.01	86.32
Mixed sample	5	10	2,415			.32	[0.25, 0.39]	<.01	76.80
Publication Type				4.34	21.90			.05	
Journal paper	47	86	21,738			.34	[0.30, 0.38]	<.01	89.34
Master thesis	15	33	8,184			.28	[0.24, 0.32]	<.01	83.83

Note. s = number of studies; k = number of correlations; n = sample size; F = HTA-F test comparing the levels of a given moderator, HTA = Approximate Hotelling’s T-square test. Results with a df below 4 are likely to be underpowered and thus should be interpreted with caution.

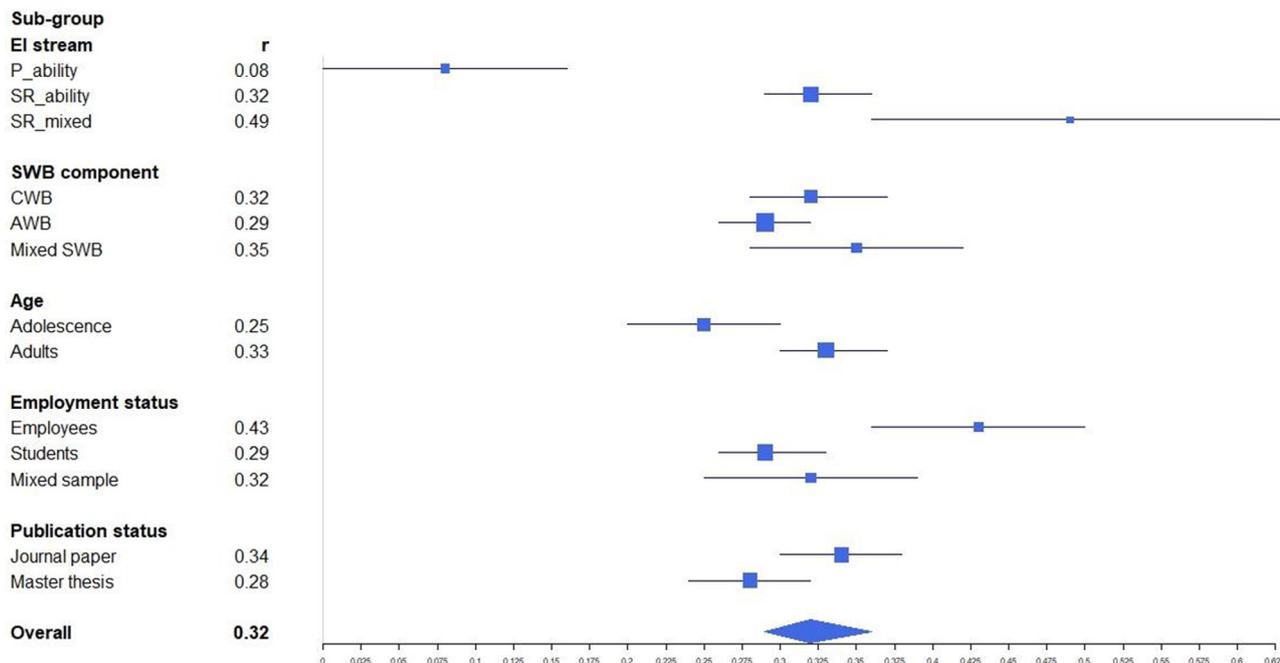


Figure 2 Forest plot for overall analysis of emotional intelligence (EI) with subjective well-being (SWB), showing separate effects by EI stream, SWB component, age, employment status, and publication type.

conducted with RVE; the latter three indicators were conducted with the R package metafor (Viechtbauer, 2010) based on the aggregated 62 effect sizes (one effect size per study), which were calculated by the R package MAD (Del Re & Hoyt, 2010) with a prespecified correlation, $r = .50$ (Borenstein et al., 2009) among effect sizes within each study.

Results

Table 1 presents the characteristics of the 62 studies (119 effect sizes) included in the present meta-analysis. Among them, 60 studies used self-report ability EI measures, one of which used performance-based ability EI measures; one study used self-report mixed EI measures; and one study used both performance-based ability EI measures and self-report mixed EI measures. In addition, there were 40 CWB indicators reported by 39 studies, 62 AWB indicators reported by 33 studies, and 17 mixed SWB indicators reported by 17 studies. For the sample composition, male ratios ranged from 0.00 to 100% ($Mdn = 45.60%$); 51 studies recruited adult participants, 9 studies mainly consisted of adolescent participants, and 2 studies did not report age information; and 44 studies included college students as participants, 13 studies included workers as participants, and 5 studies used mixed samples. Furthermore, 41 studies were published in Chinese, and the other 21 were published in English.

Overall Effect Size

The result of overall effect size with 119 indicators was $r = .32$, 95% CI [0.29, 0.36], $p < .001$, indicating a moderately positive relationship between EI and SWB. To test the robustness of this finding, we performed a sensitivity analysis in which the aforementioned analysis was repeated while excluding four studies reporting considerably high EI–SWB correlations, $r > .60$. Although the overall point estimate for the remaining 115 indicators dropped slightly in this case, it still reached the significance level, $r = .30$, 95% CI [0.28, 0.33], $p < .001$.

Moderation Analysis

There was a high level of heterogeneity in effect sizes, $I^2 = 88.72$, suggesting the necessity to explore possible differences among studies by moderation analysis. Table 2 provides detailed information regarding effect sizes for each level of each moderator as well as the accompanying significance levels. Furthermore, Figure 2 provides a forest plot to illustrate the overall analysis of EI with SWB, showing separate effects by EI stream, SWB component, age, employment status, and publication type.

Table 3

Meta-Regression Analysis of Continuous Moderator Variables (random-effect model) in Chinese Studies of the Correlation of Emotional Intelligence and Subjective Well-Being

	Parameter	Estimate	SE	95% CI	<i>t</i>	<i>p</i>
Male (%)	β_0 (intercept)	.37	.05	[0.26, 0.48]	7.13	<.01
	β_1 (male ratio)	-.08	.12	[-0.35, 0.20]	-0.61	.55

Influence of EI stream. As shown in Table 2, the EI stream did not moderate the relationship between EI and SWB in general, $F = 0.94$, $df = 0.13$, $p = .84$. However, the small df , $df = 0.13 < 4$, which may have been a result of the scarcity of studies using performance-based ability EI (two studies) and self-report mixed EI (two studies) (see Table 2), indicates that the overall variance analysis is likely to be underpowered and should be interpreted with caution (Bediou *et al.*, 2018; Lauer, Yhang, & Lourenco, 2019). In this case, comparing the CI of effect size (i.e., CI of r) can be an alternative method to determine whether significant differences exist (Jones, Woods, & Guillaume, 2016). In the current study, the nonoverlapping CIs of correlations between different EI streams and SWB suggested that SWB was more strongly associated with self-report mixed EI, $r = .49$, 95% CI [0.36, 0.63], $p = .11$, and self-report ability EI, $r = .32$, 95% CI [0.29, 0.36], $p < .001$, than with performance-based ability EI, $r = .08$, 95% CI [0.00, 0.16], $p = .29$.

Influence of SWB component. As shown in Table 2, the component of SWB moderated the relationship between EI and SWB at a marginally significant level, $F = 3.00$, $df = 33.40$, $p = .06$. Specifically, the results of a pairwise comparison revealed a stronger magnitude of EI–SWB correlation when the latter was measured as CWB, $r = .32$, 95% CI [0.28, 0.37], $p < .001$, than as AWB, $r = .29$, 95% CI [0.26, 0.32], $p < .001$, with $F = 4.29$, $df = 40.10$, $p = .04$. In contrast, there was no significant difference when SWB was measured as CWB or mixed SWB, $r = .35$, 95% CI [0.28, 0.42], $p < .001$; $F = 0.40$, $df = 28.40$, $p = .53$, nor when SWB was measured as AWB or mixed SWB, $F = 2.18$, $df = 30.50$, $p = .15$.

Influence of gender. To evaluate the moderating role of gender on the EI–SWB association, r was metaregressed onto the proportion of male participants in 61 studies (116 indicators) who reported detailed information about participants' gender distribution. As shown in Table 3, the results suggested that the proportion of male participants could not predict the strength of the EI–SWB correlation, $\beta = -.08$, 95% CI [-0.35, 0.20], $p = .55$. Furthermore, we separately conducted the regression analysis on two components of SWB. The results showed that gender did not moderate the link

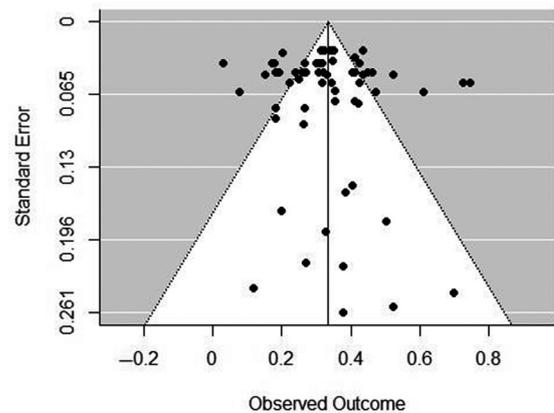


Figure 3 A funnel plot of the trim-and-fill analysis indicates no need for additional studies.

between EI and AWB, $\beta = .06$, $p = .67$, nor the link between EI and CWB, $\beta = -.03$, $p = .90$. Taken together, these results indicate that gender has no effect on the relationship between EI and SWB.

Influence of age. As shown in Table 2, age significantly moderated the EI–SWB association in 60 studies (114 indicators) that reported detailed information about participants' age, $F = 6.41$, $df = 8.50$, $p = .03$. Specifically, this correlation was higher in adults, $r = .33$, 95% CI [0.30, 0.37], $p < .001$, than in adolescents, $r = .25$, 95% CI [0.20, 0.30], $p < .001$. However, the results were somewhat different when we separately conducted the moderation analysis on different components of SWB. In this regard, age did not moderate the link between EI and AWB, $F = 0.31$, $df = 6.80$, $p = .60$, nor the link between EI and CWB, $F = 0.22$, $df = 1.10$, $p = .72$. In fact, the aforementioned age differences mainly stemmed from the relationship between EI and mixed SWB, $F = 23.30$, $df = 1.30$, $p = .09$, in which the association was stronger in adults, $r = .37$, 95% CI [0.30, 0.44], $p < .001$, than in adolescents, $r = .19$, 95% CI [0.18, 0.20], $p = .001$.

Influence of employment tatus. As shown in Table 2, employment status moderated the relationship between EI and SWB at a marginally significant level, $F = 4.93$, $df = 4.83$, $p = .07$. Notably, when these effect sizes were compared separately, there were some

significant differences. Specifically, this correlation was stronger in employees, $r = .43$, 95% CI [0.36, 0.50], $p < .001$, than in students, $r = .29$, 95% CI [0.26, 0.33], $p < .001$; $F = 11.80$, $df = 17.30$, $p < .001$, and it was marginally stronger in employees than in mixed samples, $r = .32$, 95% CI [0.25, 0.39], $p = .001$; $F = 4.82$, $df = 7.98$, $p = .06$. In contrast, there were no significant differences in EI–SWB associations across students and mixed samples, $F = 0.49$, $df = 5.14$, $p = .51$.

Furthermore, we separately conducted the aforementioned moderation analysis on two components of SWB. The results showed that employment status significantly moderated the link between EI and AWB, $F = 7.04$, $df = 5.46$, $p = .04$, as well as the link between EI and CWB, $F = 13.90$, $df = 15.30$, $p = .002$. In both cases, the EI–AWB and EI–CWB associations were significantly stronger in employees than in students.

Publication bias (including the influence of publication type). As shown in Table 2, publication type moderated the EI–SWB correlation, $F = 4.34$, $df = 21.90$, $p = .05$. Specifically, this correlation was significantly higher in journal papers, $r = .34$, 95% CI [0.30, 0.38], $p < .001$, than in master's theses, $r = .28$, 95% CI [0.24, 0.32], $p < .001$. However, after excluding four journal papers that reported noticeably high EI–SWB correlations,¹ $r > .60$ (Lv, Wu, & Tong, 2016; X. Wang, Wang, Zhang, & Hao, 2018; S. Zhang & Shi, 2017; X. Zhang & Zhang, 2018), this difference became non-significant, $F = 2.07$, $df = 21.90$, $p = .16$.

The results of Orwin's fail-safe N analysis indicated that it would take 150 overlooked studies with effect sizes of 0 to decrease the overall effect size to a trivial level, $r = .1$. In addition, the results of Egger's regression test revealed that there was no significant funnel plot asymmetry, $z = 0.75$, $p = .45$. Furthermore, the results of the trim-and-fill also showed a symmetric funnel plot; thus there was no need to add additional studies (Figure 3). Taken together, although publication type significantly moderated the strength of the EI–SWB correlation, publication bias seems not to be a serious problem in the current meta-analysis.

Discussion

Relationship Between EI and SWB

Considering that traditional Chinese culture encourages individuals to suppress their emotional expression (Kang et al., 2003; Soto et al., 2011) but Chinese people pay considerable attention to external societal norms rather

than focusing on internal emotional experiences to evaluate their SWB (Lu & Shih, 1997; Suh et al., 1998), we expected that EI may have a stronger or weaker association with SWB in a Chinese context than in Western culture. The results, however, revealed a moderately positive relationship, $r = .32$, between EI and SWB in Chinese samples that is almost equal to the magnitude in the meta-analysis conducted using Western samples (Sánchez-Álvarez et al., 2016; $r = .32$). This indicates the cross-cultural generalisability of EI–SWB associations. That is, in both Chinese and Western cultures, individuals who are more able to perceive, express, and manage their emotions are more able to handle stressful events and disturbing emotions more efficiently, which in turn contributes to higher levels of life satisfaction and affective well-being (Zeidner et al., 2012).

The comparable EI–SWB association across Chinese and Western cultures may result from two possible reasons. First, as mentioned earlier, traditional Chinese culture may exert a mixed effect on the EI–SWB association. Specifically, on one hand, given that traditional Chinese culture encourages individuals to suppress their emotional expression (Kang et al., 2003; Soto et al., 2011), high EI (e.g., accurately identifying vague or unclearly expressed emotions) may be especially important for establishing positive interpersonal relationships and higher levels of SWB. However, on the other hand, considering that Chinese people pay considerable attention to external societal norms rather than mainly focusing on internal emotional experiences (as in Western cultures) to evaluate their SWB (Lu & Shih, 1997; Suh et al., 1998), high EI (e.g., accurately experiencing, expressing, and regulating one's emotional state) may have a less influential effect on SWB. When we take these two theoretical perspectives into consideration simultaneously, it is understandable that these effects may cancel each other out (i.e., magnitudes are similar, but the process is different).

Second, the culturally universal EI–SWB association observed in the Chinese sample may also stem from a dramatic social change and cultural integration in contemporary China. Since the reform and opening (1978), especially after the accession to the World Trade Organization (2001), China has been more closely linked with Western countries and has experienced intense economic, social, and cultural changes. With this background, many Chinese people, especially young people in urban cities, are deeply influenced by Western culture and are becoming increasingly individual-oriented in general (Lu, 2005; Lu & Kao, 2002). In our meta-analysis, most of the samples consist of adolescents, college students, and early adults, who have grown up with the aforementioned sociocultural change. It is not surprising that many of them may hold Western individual-oriented

¹In contrast, all EI–SWB correlations were smaller than .60 in master's theses.

values in emotional expression and SWB evaluation. Specifically, they may have a more independent view of themselves, express their inner feelings more openly, and give more weight to their internal emotional experience rather than external societal norms when evaluating their SWB. Thus, despite the differences between traditional Chinese culture and Western culture, the coexistence and integration of individualistic and collectivistic values in contemporary Chinese society may result in EI playing a similar role in predicting SWB as in Western culture.

Moderating Role of EI Stream

In general, EI stream did not moderate the positive correlation between EI and SWB. However, the small df $0.13 < 4$ suggested that the overall variance analysis is likely to be underpowered and should be interpreted with caution. In contrast, the nonoverlapping CIs of correlations between different EI streams and SWB indicated that SWB was more strongly associated with EI when the latter was conceptualised as self-report ability EI and self-report mixed EI than as performance-based ability EI (see Table 2).

These differences may result from two possible reasons. First, as mentioned earlier, the conceptual scope of a mixed EI model is much broader than an ability EI model. For example, in addition to emotion-related skills (e.g., emotion perception and emotion expression), a mixed EI model includes some facets (e.g., happiness, optimism, and stress management) that are closely related to SWB (Dawda & Hart, 2000; Petrides *et al.*, 2006). Therefore, compared with the ability EI model, the mixed EI model showed a stronger association with SWB. In addition, “common method bias” can also partially explain the aforementioned differences (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Specifically, similar response dispositions (i.e., participants rating themselves with reference to a series of statements) among self-report ability EI, self-report mixed EI, and self-rated SWB may lead to inflated correlations. In contrast, dissimilar response dispositions between performance-based EI (i.e., maximal performance in test situations) and self-rated SWB (i.e., typical behavior in daily life) may result in restricted correlations that are lower than actual levels.

Moderating Role of SWB Component

Consistent with previous studies (Yuan & Luo, 2014; Zhou, 2011), our results showed higher associations between EI and CWB than between EI and AWB. Therefore, our study confirmed the moderating role of the SWB component in the EI–SWB association, as

revealed in Sánchez-Álvarez *et al.* (2016). The underlying rationale may lie in that both EI and CWB involve cognitive assessments of relatively stable constructs (e.g., general emotional competence and global life satisfaction) whereas AWB refers to affective states that are prone to fluctuation (e.g., positive affect and negative affect) (Sánchez-Álvarez *et al.*, 2016). From this point of view, it is not unusual to find higher correlations between EI and CWB due to their similarity in temporal stability and cognitive evaluation characteristics.

Moderating Role of Gender

Theoretically, positive interpersonal relationships may function as a mediator through which superior EI relates to a higher level of SWB (Li & Lau, 2012; Lopes, Salovey, & Straus, 2003; Lu & Shih, 1997; Schutte *et al.*, 2001). Although previous studies have mixed results about whether EI differs significantly between males and females (Goldenberg *et al.*, 2006; Shi & Wang, 2007; Wang, Zou, Zhang, & Hou, 2019), there is some evidence that males are more competent in emotion regulation/management than females (Mikolajczak *et al.*, 2007), which further contributes to their superiority in establishing positive interpersonal relationships (Brackett *et al.*, 2005). However, there is also some evidence that interpersonal relationships form a more important predictor of SWB in females than in males (Joshani, 2018), given that females are usually more relationship-oriented than males (Helgeson, 1994). These two lines of research findings may have resulted in some kind of “counteraction effect,” finally leading to an approximate magnitude of EI–SWB correlation across males and females, as explicitly shown in several empirical studies conducted with Chinese samples (Kong & Zhao, 2013; M. Wang *et al.*, 2019; Y. Wang & Kong, 2014).

Moderating Role of Age

Consistent with our hypothesis, age moderated the relationship between EI and SWB. In general, the correlation was stronger in adults than in adolescents. The reason for this phenomenon may be that adults have more opportunities to use their age-related advantages in emotion regulation to establish higher levels of affective and cognitive well-being (Luo & Jin, 2016). As mentioned earlier, compared with adolescents, who are mainly middle-school students, adults have to deal with more complicated interpersonal relationships and higher levels of social demands in their daily lives. Therefore, EI is more urgently needed in adulthood than in adolescence to handle stressful events and unpleasant emotions. Following this line of reasoning, it is not strange that EI exerts a more influential effect on SWB in adults than in adolescents.

However, post hoc analysis further revealed that the previous moderation effect mainly exists in the relationship between EI and mixed SWB, but was not significant in the association between EI and AWB nor in the association between EI and CWB. Given this situation, we should interpret the moderating role of age with caution. Accordingly, we encourage future studies to further disentangle this research question by including age as a continuous variable and exploring possible underlying processes (e.g., complexity of interpersonal relationships and level of social demand) through which EI exerts different effects on SWB across different ages.

Moderating Role of Employment Status

As expected, employment status moderated the positive correlation between EI and SWB. Specifically, the correlation was larger in employees than in students. One possible explanation for this result may be related to emotional labour demand. As asserted by Daus and Ashkenasy (2005), EI can predict job performance better in jobs requiring high emotional labour. Similarly, in a recent meta-analytic study, Joseph and Newman (2010) uncovered much stronger correlations between EI and job performance in jobs with higher emotional labour demand than those with lower emotional labour demand. Note that emotional labour is much less demanding for students than for employees because they “are not directed to present specific emotion displays and are not rewarded or penalized for the displays” (Albas & Albas, 1988, p. 273). Therefore, it is reasonable that EI would affect SWB more extensively in employees than in students.

Moderating Role of Publication Type

Notably, the overall association between EI and SWB was stronger in published papers than in master's theses. Although this difference became nonsignificant after excluding four journal papers that reported considerably high EI–SWB correlations, it still reminds us that in general, journal does favour submissions that report statistically significant or even noticeably high effect sizes. To control for this bias, researchers should take effective strategies to ensure the quality of their papers submitted to journal (e.g., use validated measures, control for possible confounding factors, use independent and blind assessments). In addition, they should also make efforts to expand the visibility of their nonsignificant findings (e.g., publish them as preprints or in open-access journals).

Theoretical and Practical Implications

Consistent with prior meta-analytic research conducted in Western and Eastern cultures (Luo & Jin, 2016;

Sánchez-Álvarez et al., 2016; B. Wang & Liang, 2020), the current study revealed a moderately positive association between EI and SWB, $r = .32$. Overall, it seems appropriate to conclude that the strength of the EI–SWB association is culturally universal. As discussed earlier, this phenomenon may stem from two possible reasons: (a) Traditional Chinese culture (collectivistic/interdependent focus) may exert a mixed effect on the EI–SWB association and that these effects may cancel each other out and (b) the trend of globalisation facilitates cultural integration and thus diminishes the effect of traditional Chinese culture on the EI–SWB association. Future studies are encouraged to validate the appropriateness of our explanations using culture-related variables (e.g., emotion expression, emotion suppression, emotional differentiation, and individualism/collectivism), and examine whether these variables predict SWB differently across Western and Eastern cultures. In addition, we also encourage future studies to further disentangle possible mediating mechanisms (e.g., interpersonal relationships) through which EI contributes to higher levels of SWB and compare the relative importance of these mediators across different cultural backgrounds.

In the current study, the results of moderation analysis revealed that the EI–SWB association would hold invariant across gender, but would be stronger in adults and employed individuals compared to adolescents and students. Given these findings, future researchers should identify the boundary conditions under which EI contributes to higher levels of SWB. For example, in addition to gender, age, and employment status, future studies can further examine whether other important aspects of demographic characteristics (e.g., race, education level, income level, marital status, occupation, and religion) can also moderate the EI–SWB association. In addition, from the perspective of ecological theory of human development (Bronfenbrenner & Morris, 2006), people live in a complicated reality that consists of different levels of ecosystems; thus, developmental outcomes such as SWB may result from the complex interplay between individual and environmental factors. Following this line, some scholars have proposed that variables such as core self-evaluation (Sun, Wang, & Kong, 2014) and hedonic balance (Prado, Villanueva, & Górriz, 2018) may moderate the strength of the EI–SWB association. Going a step further, we encourage future studies to systematically examine whether other individual (e.g., self-compassion, hope, and optimism) and environmental (e.g., family cohesion and social support) factors can function as moderators in the EI–SWB association.

From a practical perspective, our findings imply that intervention programs that aim to increase individuals' SWB should take EI into consideration. Fortunately, many studies have confirmed that EI can be improved

by well-designed and scientifically based programs (Schutte, Malouff, & Thorsteinsson, 2013). Therefore, as a promising alternative to improve people's life satisfaction and affective well-being, educators and health professionals can consider initiating EI enhancement programs that are designed to expand individuals' emotion-related knowledge, increase their emotional self-efficacy, and demonstrate the usage of effective emotional regulation strategies (e.g., cognitive reappraisal).

Limitations and Future Directions

There are some limitations in the present study. First, although we propose that the strength of the EI–SWB association may differ in different cultural contexts (e.g., individualistic and collectivistic values), this study only conducted a meta-analysis with relevant findings in Chinese samples—a subset of Eastern culture population—and compared them with Sánchez-Álvarez *et al.*'s (2016) meta-analysis, which mainly consists of Western samples. Future studies can further extend this line of research by conducting meta-analyses of the EI–SWB association in other Eastern culture populations (e.g., South Korea and Japan) or by directly examining this association with cross-cultural samples. Second, the present meta-analysis cannot draw any causal relationship between EI and SWB, given that almost all the included studies are cross-sectional. Therefore, longitudinal studies or intervening studies are encouraged to further establish the direction(s) of causality. Third, the lack of studies using performance-based ability EI and self-report mixed EI in our meta-analysis largely restricted the statistical power of relevant findings. Future studies should address this limitation by including EI measures from these two theoretical models and closely examining their relationship with SWB.

Conclusion

In conclusion, our study revealed a moderately positive association, $r = .32$, between EI and SWB within a Chinese sample. In addition, EI stream, SWB component, and participants' age and employment status significantly moderated the strength of this association. Specifically, this association was stronger when EI was measured as self-report ability EI or self-report mixed EI than when it was measured as performance-based ability EI. The association was also stronger when SWB was measured as CWB rather than as AWB, when the study involved adults rather than adolescents, and when the study involved working adults rather than students. In contrast, this association is approximately equal across males and females in the Chinese context.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

Data Availability Statement

Data are only available upon reasonable request.

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