KU LEUVEN

FACULTY OF PSYCHOLOGY AND
EDUCATIONAL SCIENCES

FEELING BAD ABOUT BEING SAD: A CROSS-CULTURAL EXAMINATION OF THE PERCEIVED SOCIAL PRESSURE TO AVOID FEELING NEGATIVE EMOTIONS AND ITS ROLE FOR WELL-BEING

Master's thesis submitted for the
degree of Master of Science in Master
of Psychology: Theory and Research
by
Sophie Hölscher
Marbella Perez Peña
Supervisor: Prof. Dr. Peter Kuppens
Co-supervisor: Prof. Dr. Brock Bastian
In collaboration with: Egon Dejonckheere

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Summary

Valuing happiness and renouncing negative emotions such as sadness or anxiety are salient norms in Western society. Normal negative emotions are pathologized and their potential benefits ignored. Paradoxically, the social pressure to avoid the experience of such negative emotions has been associated with a range of negative consequences, such as increased negative emotions, depression, reduced life satisfaction, and loneliness. This occurs because emotions are weighed against the societal standards to not feel bad, which individuals cannot live up to. When there inevitably is a mismatch between individuals' emotional experience and the positive emotions others expect them to feel, these same non-normative negative emotions are amplified. Most research centering on these questions has been performed in Western countries. As such, it remains unclear how such social expectancies play out elsewhere in the world, especially as social norms for certain emotions are known to differ considerably across cultures.

The current project aimed to study the relation between the social pressure to feel positive emotions and to avoid feeling negative emotions and well-being from a cross-cultural perspective. This was done as part of a Multinational Study in which data from 18 countries (N=2928) was collected. Three aims were pursued: first, a replication of the relation between social pressure to be happy and not sad and well-being was conducted both on an individual and country level. Well-being was comprised of life satisfaction, depressive symptoms, frequency and intensity of negative emotions and national MDD and suicide prevalence rates. Second, individual- and country-level correlates of social pressure were investigated. At the individual level, we investigated gender, hedonism, and religion, and at the country level individualism, self-expression and social media. Third, moderating factors between social pressure to be happy and not sad and well-being were examined across cultures. At the individual level, we investigated the moderating influence of religiosity, and at the country level, that of individualism and self-expression. Exploratorily, we researched the moderating influence of practicing a religion and gender on the relation between social pressure and well-being.

Introduction, hypotheses, methods and analysis code were pre-registered on OSF. Data was analyzed using linear regression models. Results indicated that social pressure to be happy and not sad is associated with reduced well-being for all measures across individuals, replicating previous findings. Furthermore, female gender on an individual level and social media penetration and self-expression on a country level are associated with increased social pressure. Moreover, gender and practicing a religion moderate the relation between social pressure and well-being. Results also indicated that social pressure to be happy and social pressure to not be sad are separate constructs and are differentially associated with individuals' well-being. Our findings suggest that to enhance well-being, a more balanced view on emotions should be promoted.

The findings of the present study highlight the prominence of social pressure and its negative consequences for well-being as well as the importance of studying this construct at an individual and country level because social pressure arises in society but is related to the well-being of individuals.

Acknowledgments

The completion of this thesis would not have been possible without the help and support of the following people. We would like to thank our supervisor, Professor Peter Kuppens for his guidance throughout the entire process and his very helpful feedback. We would also like to thank our daily mentor, Egon Dejonckheere, for his constructive feedback on our statistical analyses, his sharing of relevant journal articles, and his overall assistance throughout. Furthermore, we are very grateful for the help of Margot de Palmeneire and Daan Vandermeulen in translating the questionnaires from English to Dutch. Moreover, we would like to thank our collaborators in the University of Melbourne, particularly Brock Bastian, for coordinating the Multinational Study, and Joshua J. Rhee, for putting together the dataset with all the data from the countries involved and for answering our questions regarding the dataset. Last but not least, we would like to thank all the researchers around the world involved in the Multinational Study for doing data collection in their respective countries and sharing their data with us. Thank you all for your support and contributions.

Comment on general approach and contributions

After the initial meeting in which the Multinational Study was introduced, followed by a first literature review which we each conducted independently, Professor Kuppens asked us to develop our own research questions and hypotheses. This too was done independently, however we met up occasionally to discuss our ideas. When reporting back with our research questions and the variables we wished to investigate, Professor Kuppens gave us the choice of working together to study all our research questions as a joint thesis, or to divide the project up between us and write separate theses. As we had worked together on group projects in the past and got along well outside of class, we knew we had a good working relationship and decided to write a joint thesis. Furthermore, we knew that we would obtain a clearer picture of the research phenomena if we pursued all our research questions together.

From the beginning onward we were both involved in every step of the process. As our thesis is part of a Multinational Study, the questionnaires used for data collection had already been decided upon before we joined the project. However, we gathered the available Dutch translations of the questionnaires and translated the questionnaires for which no translation was available. This was done with the help of an intern working for Professor Kuppens and a professional translator. After creating the Dutch online questionnaire, Egon uploaded the study and distributed it to the university students who signed up for the study in Belgium. The literature review, R code for analysis, writing of the thesis as well as the pre-registration were worked on equally by the two of us. This was done with the aid of Google drive, which allowed us to share files and work on documents in parallel.

Professor Kuppens and Egon were available for frequent meetings to discuss our progress and the next steps of our thesis, as well as for any questions regarding literature, content, analysis or the progress of the Multinational Study. The two of them provided critical feedback and helped shape the research, analysis and manuscript. Egon additionally looked over our R code and was available for any questions with regards to the statistical analysis. Aside from giving us the first key references from which to start our literature review, Professor Kuppens and Egon were kind enough to send us relevant articles throughout the two years. Lastly, our collaborators from Australia assembled all data collected by researchers in other countries before January 2019 into the dataset we used for our data analysis.

Working together on our thesis was a pleasure. We both have a similar work ethic and were committed to working hard and creating the best thesis possible. We have been in constant contact these last two years, with almost weekly meetings to discuss our process and next steps, to divide tasks or work on them together. Meeting deadlines or coming to a consensus was never an issue, and when one of us could not attend meetings or had a busy week, the other was happy to step in. We encouraged each other and worked hand in hand to create a coherent thesis in which you cannot distinguish who wrote what because we both contributed to all aspects equally. After two years of working on this thesis, we can look back on a successful collaboration and can feel proud of the work we have done in not only developing a thesis, but also a friendship.

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Abstract

Social expectations to avoid feeling negative emotions have been associated with a range of negative consequences, such as increased negative emotions, depression, and loneliness. The present pre-registered study used data from 18 countries (N = 2928) to pursue three aims: (1) a replication of the relation between social pressure to be happy and not sad and well-being at the individual and country level, (2) an investigation of individual- and country-level correlates of social pressure, and (3) an examination of moderating factors between social pressure and well-being. Linear regression models indicated that social pressure to be happy and not sad is associated with reduced well-being across individuals, replicating previous findings. Furthermore, female gender on an individual level and social media penetration and self-expression on a country level were associated with increased social pressure. Lastly, gender and practicing a religion moderated the relation between social pressure and well-being. Our results also indicated that social pressure to be happy and social pressure to not be sad are separate constructs and are differentially associated with individuals' well-being. The findings of the present study highlight the prominence of social pressure and its negative consequences on well-being as well as the importance of studying this construct at an individual- and country-level because social pressure arises in society but is related to the well-being of individuals.

Keywords: social expectancies, happiness, well-being, emotion norms, cross-cultural

1. Theoretical Background

Valuing happiness and rejecting negative emotions such as sadness is a salient norm in Western society. Through television advertising or national campaigns, happiness is being communicated to us as being important for personal and national well-being (Bastian et al., 2012; White, 2007). However, and seemingly contradictory, rates of depression and anxiety continue to increase in Western countries during the past few years (World Health Organization, 2015).

Among other factors, social environments play an important role in how we evaluate our emotions (Fischer, Rotterveel, Evers, & Manstead, 2004; Manstead & Fischer, 2001). Salient cultural norms convey social expectancies of emotions leading to the construction of emotional goals (Bastian, Pe & Kuppens, 2017). Our societal norms tell us that we are expected to feel happy, and not to feel sad, anxious or stressed (Bastian et al., 2012). Normal emotions, such as sadness or anxiety, are pathologized and their potential benefits, such as enhancing creativity (Wilson, 2008), improving memory performance, reducing judgmental errors, improving motivation (Forgas, 2013) and rendering life more meaningful (Hayes, Strosahl, & Wilson, 1999), ignored (Haslam, 2005). Expressing negative emotions has even been associated with psychosocial well-being (Gross & John, 2003). However, paradoxically, social pressure to feel happy and to not experience such negative emotions has been associated with a range of negative consequences, such as increased negative emotions, depression, loneliness, and reduced satisfaction with life (Bastian et al., 2012; Bastian, Kuppens, De Roover, Diener, 2014).

Why does this imbalanced emphasis on not feeling negative emotions lead to negative outcomes? This occurs because we weigh our own emotions against these societal standards, which determine whether our emotions are culturally acceptable or not (Boiger & Mesquita, 2012; Bastian et al., 2014; Eid & Diener, 2001). This comparison is done independently of personal expectancies (Bastian et al., 2012). When we inevitably cannot live up to societal expectations (e.g., the social expectancy to be continuously happy and not sad), we feel like we have failed, as there is a mismatch between our emotional experience and what others expect us to feel. One mechanism that has been found to mediate the relationship between social expectancies to be happy and well-being is negative self-reflection which causes those same non-normative negative emotions to amplify (Bastian et al., 2012). In conclusion, social expectancies to not be sad increase negative emotions and reduce well-being (Figure 1).

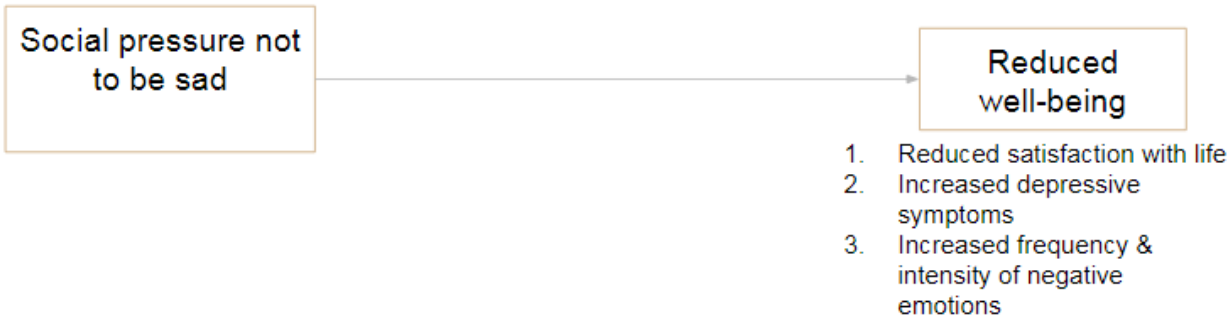

Figure 1: General model depicting the relation between social pressure not to be sad and well-being.

Clearly, social norms to experience certain emotions are culturally defined and prescribed. Previous research confirms this by documenting the important role culture plays in shaping our emotional experiences (Eid & Diener, 2001; De Vaus, Hornsey, Kuppens, & Bastian, 2017). As an example, the association between social expectancies to not feel negative emotions and well-being varies across cultures (Bastian et al., 2012), and studies have shown that there are cultural differences in regards to how often positive events are shared with others (Choi, Oishi, Shin & Suh, 2019).

Yet, surprisingly, the role of culture in the relation between these social norms and well-being has been largely understudied. Indeed, to learn more about the relation between social pressure to avoid negative feelings and reduced well-being, it would be interesting to perform a cross-country replication as well as an investigation of the individual and societal level factors affecting this relation. A cross-cultural replication would provide further evidence for the association between social pressure and reduced well-being as well as inform us about potential differences across individuals from different countries. This is particularly relevant, as this finding has been almost exclusively studied in a Western context leading to much unclarity about the role culture plays in shaping this social pressure and its relation with well-being.

Therefore, the current project aims to study the social pressure to avoid negative emotions and its relation to well-being from a cross-cultural perspective. In order to create a more comprehensive picture of the associations between social pressure and well-being, an investigation of both individual and country-level variables will be conducted. Investigating individual-level variables is relevant because social pressure to feel happy and not sad exists in society but is related to the well-being of individuals. Individuals internalize social expectancies and judge their emotional experiences accordingly (Bastian et al., 2012). However, studying the association between social pressure to be happy and not sad solely at an individual level would be an incomplete endeavor as social pressure arises in society. Hence, it is important to look at country-wide measures of social expectancies as well as country-wide data on well-being (e.g., depression prevalence rates or suicide rates) in order to obtain information about prevalent norms and about the severity of the overall societal impact of social pressure.

It would be interesting to extend previous research on the relation between social pressure not to be sad and well-being by including social pressure to be happy. Previous research into this topic has mainly focused on the social pressure not to feel negative emotions and its relation to well-being (Bastian et al., 2012, 2017; Dejonckheere, Bastian, Fried, Murphy, & Kuppens, 2017). However, the social pressure to not feel sad is not the same as the social pressure to feel happy. The former endorses the absence of negative emotions and the latter promotes the presence of positive emotions, which are two different constructs. The distinction between these two constructs is supported by findings that positive and negative emotions are differentially related to life satisfaction (Kuppens, Realo, & Diener, 2008). Therefore, it is important to extend research to include not only social pressure not to be sad but also social pressure to be happy.

To study the role of culture in this respect, we aim to pursue three aims (Figure 2): first, we aim to replicate the relation between social pressure to be happy and not sad and well-being on an individual and country level. We want to investigate if differences in individuals' perceived social pressure relate to differences in their well-being, and if country-level rates of social pressure relate to differences in well-being at a country level, such as prevalence rates of major depression as well as suicide rates. Second, we will investigate individual and country level variables that are associated with social pressure, such as gender, religion and individualism. Third, we plan on examining factors that change the relationship between social pressure to be happy and not sad and well-being across cultures (i.e. moderation).

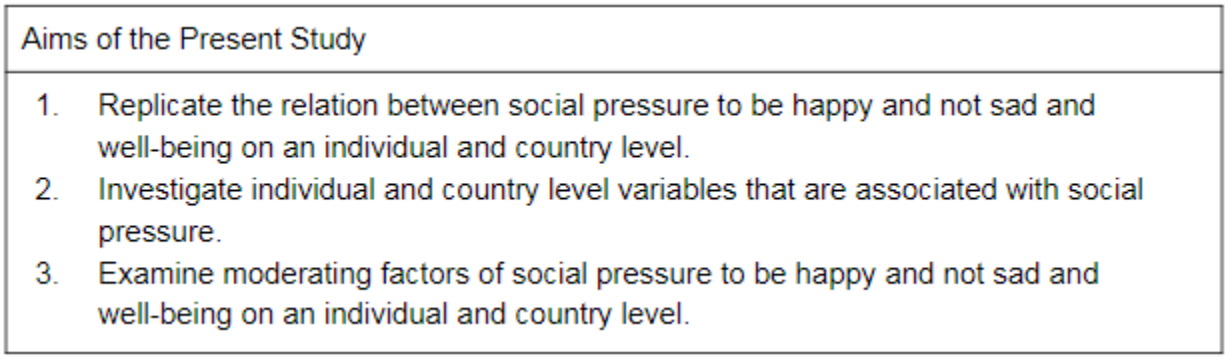

Figure 2: The three aims of the study.

To pursue these aims a pre-registered cross-cultural online study with participants from 65 countries and 120 collaborators was conducted. Due to a time constraint on our thesis, only data collected between the 01.10.2017 and the 25.12.2018 were included in this report. Therefore, data from 18 countries was analyzed: Australia, Belgium, Canada, Chile, Costa Rica, Estonia, France, Hong Kong, Italy, Malaysia, Netherlands, Poland, Portugal, Scotland, Singapore, Slovakia, Spain and the USA. Two models were developed describing how various factors influence the relationship between social pressure to be

happy and not sad and well-being, one for the individual level and one for the country level. The individual level model (ILM) seeks to achieve our first aim by replicating the relation between social pressure and well-being at the individual level. Furthermore, it seeks to achieve our second aim by investigating how gender, religion, and hedonism influence a person's social pressure to be happy and not sad. Lastly, the ILM fulfills our third and final aim by investigating the moderating influence of religiosity on the relationship between social pressure and well-being. The country level model (CLM) pursues our first aim by replicating the relation between social pressure and well-being on a country level, while taking additional country-level indicators of well-being, depression and suicide rates, into account. On a country level, we pursue our second aim by investigating the influence of social media penetration as well as the cultural variables individualism and self-expression on social pressure. Our last aim will be addressed in the CLM by looking into individualism and self-expression as moderators of the relationship between social pressure and well-being.

1.1 Replication

The first aim of the present study is to replicate the findings that social pressure to feel happy and not sad is associated with reduced well-being (Bastian et al. 2012, 2014) in a cross-cultural sample at the individual and country level.

1.1.1 Individual-level replication. At the individual level, we expect that individuals who experience a high social pressure to be happy and not sad, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions. As mentioned above, social pressure to feel happy and to not experience negative emotions has been associated with increased negative emotions, depression, loneliness, and reduced satisfaction with life (Bastian et al., 2012, 2014). This is due to individuals comparing their own emotions against these societal expectations of constant happiness. When there inevitably is a mismatch between an individual's emotional experience and the positive emotions others expect them to feel, these same non-normative negative emotions are amplified (Bastian et al., 2012).

1.1.2 Country-level replication. At a country level, we expect that countries in which the social expectancy to feel happy and not sad is comparatively high, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions. Furthermore, this study seeks to conduct a conceptual replication by investigating the association of social pressure to be happy and not sad with national indicators of depression. Social pressure to feel happy is a salient norm, especially in Western societies. Perhaps paradoxically, according to the World Health Organization rates of major depressive disorder in Western countries are comparatively high, and suicide rates in the European Region are the highest worldwide (World Health Organization, 2015).

How individuals perceive their society to view their feelings of depression or anxiety, specifically if they feel that their depression is disapproved upon, influences their emotional experience. As mentioned above, when people perceive social pressure to not be sad they experience reduced well-being and augmented depressive symptoms (Bastian et al., 2012). Furthermore, experiencing social pressure actually predicts increases in depression scores; in overall severity as well as most individual symptoms (Dejonckheere et al., 2017). The more pressure is felt to not experience negative emotions, the more likely an increase in depression is.

This mechanism is linked to the level of negative emotion a person feels. Bastian et al. (2017) found that when experiencing high levels of negative emotion, it is harder to selectively avoid negative information, which is in line with previous research that found that depressed individuals find it hard to disengage their attention from negative emotions (Donaldson, Lam & Matthews, 2007; Koster, De Lissnyder, Derakshan & De Raedt, 2011). The more depressed one is, the harder it is to shift focus from negative emotions. Perceived pressure to feel happy leads to negative self-reflection, which leads to an amplification of these negative feelings and an increase in depressive symptoms. In summary, the overemphasis of happiness and marginalization of natural negative emotions in society heightens the experience of negative emotions and actively contributes to the occurrence of depression (Dejonckheere et al., 2017). Hence, we predict that countries with high levels of social pressure will exhibit higher major depressive disorder (MDD) prevalence rates, as well as higher suicide rates.

1.2 Correlates of Social Pressure to be Happy and Not Sad

In addition to replicating the relation between social pressure and well-being, the present study will investigate correlates of social pressure to be happy and not sad. We will research three individual level correlates: gender, religion, and hedonism, as well as three country level correlates: individualism, self-expression, and social media.

1.2.1 Individual-level correlates.

1.2.1.1 Gender. To our knowledge, no research has investigated gender differences in social pressure to be happy and not sad; however, there is reason to believe these differences may exist. Literature has found gender differences in social pressure, with women experiencing more social pressure in a variety of situations. Women experience more peer pressure with regards to appearance (Helfert & Warschburger, 2013), are twice as likely as men to report feeling pressure to quit smoking (Royce, Corbett, Sorensen & Ockene, 1997), feel more time pressure (Mattingly & Sayer, 2006) and experience more social pressure in technology use (Venkatesh & Morris, 2000).

Societal expectations are internalized social ideals, norms and standards that are conveyed to us by our peers, parents, and media (Cialdini & Trost, 1998; Hasegawa, Shinohara, & Broadbent, 2007; Stice,

1994), and there are differences in what is expected from males and females. Gender-based responses to societal pressures reflect differences in social roles stemming from childhood socialization which are reinforced throughout everyday life (Gilligan, 1982; Maltz & Borker, 1982). Other explanations include women being more sensitive to social cues (Roberts, 1991; Royce et al., 1997). Gender differences in internalization behavior are also well-documented when it comes to mental disorder prevalences; women show higher rates for all internalizing disorders than men, across lifetime and 12-month prevalence rates (Eaton et al., 2012).

Considering the literature showing that in comparison to men, women experience higher levels of social pressure in a variety of domains, we expect gender differences in social pressure to be happy and not sad. In an exploratory fashion, we predict that women will experience higher social pressure to be happy and not sad than men.

1.2.1.2 Religion. Religion plays a role in informing a practitioner's experience of positive and negative emotions. Like culture, religion also dictates what kinds of emotions we should experience and to what intensity (Kim-Pietro & Diener, 2009). In other words, religion provides a practitioner with an ideal affect framework, which has been shown to differ between religions (Tsai, Miao, and Seppala, 2007). Since religion has been proven to inform practitioners' expectations of how they should feel (Kim-Pietro & Diener, 2009), by extension, we argue it can also inform religious individuals' expectancies to be happy and not sad.

To test this, we will investigate two well-studied religions that differ in the affective states they promote: Christianity and Buddhism. Several writings discuss the emphasis Christianity places on happiness (e.g., Gaskins, 1999; Griffith, 1998). Moreover, Tsai et al. (2007) found that in comparison to Buddhists, Christians place more emphasis on the experience of intense positive emotions (e.g., excitement). Additionally, intense positive emotions are more promoted in Christian religious and contemporary texts than in Buddhist religious and contemporary texts (Tsai et al., 2007). Buddhism, on the other hand, is a more contemplative religious tradition that promotes low arousal positive emotions as well as emotional moderation (Tsai et al., 2007; Watts, 1996). A study by Hornsey et al. (2018) found that holistic regions, which include predominantly Buddhist regions, aspire to maximize happiness less than other regions.

Based on the above research, we argue that religious denomination will inform practitioners' social expectancies to be happy and not sad. More specifically, we predict that individuals from a Christian religious tradition, which emphasizes the experience of intense positive emotions, will experience more social pressure to be happy than individuals from a Buddhist religious tradition, which places less emphasis on the experience of intense positive emotions and more emphasis on emotional moderation.

1.2.1.3 Hedonism. Hedonism refers to a lifestyle in which pleasure-seeking is the principal motivator of behavior (Veenhoven, 2003). In our study, we define hedonism as a personal value which emphasizes having pleasure, enjoying life (e.g., sex, leisure, etc.), and engaging in pleasant activities (Schwartz, 2012). From a hedonic point of view, well-being is achieved by maximizing pleasure and minimizing pain (Ryan & Deci, 2001). Following this line of thought, individuals who value hedonism are more likely to expect themselves to feel positive emotions and not feel negative emotions. Despite the obvious link between hedonism and the expectation to feel positive emotions and not feel negative emotions, to our knowledge, no research has investigated the relation between personally valuing hedonism and social pressure to be happy and not sad.

As was mentioned in the introduction, our experience of emotions is informed by our personal expectancies (how we think we should feel) and our social expectancies (how we think others think we should feel) (Bastian et al., 2012). Our personal expectancies for experiencing emotions are partially informed by our values, which are "beliefs linked inextricably to affect" (Schwartz, 2012, p. 3), and our social expectancies for experiencing emotions are informed by the cultures we live in (Bastian et al., 2012). We argue that personal expectancies (e.g., the expectation to continuously feel good because one values hedonism) can influence the social pressure an individual feels by either aggravating it or relieving it. More specifically, we predict that since individuals who value hedonism see positive, pleasurable emotions as desirable and negative, unpleasant emotions as undesirable, they will experience higher levels of social pressure to be happy and not sad.

1.2.2 Country-level correlates.

1.2.2.1 Individualism. In general, the effect of social expectancies to feel happy and not sad evoking increased negative emotional responding when failing to live up to these expectations has been found in different cultures (Bastian et al., 2012). While looking for happiness and evading sadness is a salient norm in many modern societies, there seem to be some cultural differences. In their 2012 study, Bastian et al. found that there are differences between Western and Eastern countries when it comes to the social pressure to not feel sad. In Western, more individualistic countries, happiness is a basic value, and positive feelings are the most important determinant of well-being (Diener, Diener & Diener, 1995). With the search for happiness being more pronounced in Western cultures (Kuppens et al., 2008), people reflect more negatively and experience a higher increase of negative emotions after failing to meet the cultural norm (Bastian et al., 2012). This is due to culture moderating the magnitude of these effects (Bastian et al., 2012). Culture influences what is viewed as ideal affect (Tsai, Knutson & Fung, 2006; Tsai et al., 2007), thus the social pressure to feel happy can vary between cultures.

One dimension that consistently measures fundamental differences in cultural values is individualism/collectivism (Hofstede, 2001). The dimension individualism versus collectivism describes

the social framework of a country. Individualistic cultures have a loose social framework, in which individuals are assumed to take care of only themselves and immediate families (Hofstede, 2011). Freedom and individual happiness are highly valued, and positive experiences, feeling good, and avoiding negative emotions are emphasized (Realo, Koido, Ceulemans, & Allik, 2002; Elliot, Chirkov, Kim, and Sheldon, 2001). In comparison, collectivistic cultures have a tightly-knit social framework. An individual's ingroup plays a central role in life, and individuals show unquestioning loyalty towards their ingroup and are looked after by all members (Hofstede, 2011; Realo, 2003).

Earlier studies have linked Western countries to higher social pressure to feel happy and not sad (Bastian et al., 2012). As Western and individualistic countries are often used synonymously, based on these findings we expect individualism to inform the level of social pressure to be happy and not sad within countries. We predict that in more individualistic cultures the social pressure to be happy is higher than in predominantly collectivistic cultures.

1.2.2.2 Self-expression. A second dimension that robustly measures fundamental differences in cultural values is the survival/self-expression dimension (Inglehart & Oyserman, 2004). The survival dimension is related to the socioeconomic development of a nation (Inglehart & Welzel, 2005). Survival countries are characterized by low economic and physical security, placing importance on material values over other goals, and low toleration of outgroups (Inglehart & Oyserman, 2004). Cultures high on self-expression however, show high levels of economic and physical security, which allows a climate of trust and self-expression to develop, and are very liberal (Inglehart & Baker, 2000). Self-expressive nations emphasize the importance of pleasant experiences more than survivalist countries (Kuppens et al., 2008).

We hypothesize in an exploratory fashion that the survival dimension correlates with the level of social pressure to be happy and not sad across countries, with social pressure to be happy being higher in self-expression cultures than in survival cultures.

1.2.2.3 Social media. Social media is a collection of applications and web pages created with the intent to connect people and enable information sharing (Osborne-Gowey, 2014). Currently social media is used by 3.2 billion people worldwide, and the number is constantly increasing (We Are Social, 2018).

With more and more people using social media platforms, research has investigated the way people portray themselves online. People tend to favor presenting themselves in a positive way, presenting their emotional well-being better than it is in real life (Reinecke & Trepte, 2014; Qiu, Lin, Leung, & Tov, 2012). There are multiple techniques to skew and optimize self-presentation online, through careful editing and selection of messages and pictures in order to highlight positive attributes and present an ideal self (Chou & Edge, 2012). One is more likely to post positive emotions and success than negative emotions, struggles or failures, leading to a positivity bias in communication online (Reinecke & Trepte, 2014; Qiu et al., 2012).

This positivity online could be reflecting offline social norms of feeling happy and not sad (Kuppens et al., 2008). A study by Kok, Sanen, Kuppens, Smits, and Dejonckheere (2017) investigated if happiness presented on social media actually reflects social pressure to be happy and not the happiness of a person. Although a link between expressed happiness and social expectancies to be happy was not found, neither was a relation with reported happiness level. Offline social norms are alive on social network sites and online behavior and affect people's authentic self-presentation (McLaughlin & Vitak, 2012). And the social norm to not feel negative emotions is highly relevant in the context of social media (Kok et al., 2017).

Additionally, through the constant misrepresentation and positivity bias online, users of social media could be led to believe that others are constantly happy and are living perfect lives, which could come as a contrast to their own lives (Chou & Edge, 2012), leading to an amplification of the already strongly perceived offline norm of being happy.

Hence, the present research will explore the relationship between social media prevalence in a country and the national level of social pressure to be happy. Considering the research discussed above, in an exploratory fashion we hypothesize the following: on a country wide level, social media pervasiveness is correlated with perceived social pressure to be happy and social pressure not to be sad. People who live in countries in which social media use is more prevalent will have heightened social expectancies not to feel negative emotions and to feel positive emotions, as the social norm is experienced not only offline but also online.

1.3 Moderating Factors of the Relation between Social Pressure and Well-Being

In addition to looking into the general relation of social pressure to be happy and not sad, as well as the correlates of social pressure to be happy and not sad, the present study will investigate the moderating factors of the relation between social pressure and well-being. Studying moderating variables will shed light onto the possible mechanisms driving this relation which can aid in finding protective measures against heightened social pressure and its negative effects on well-being. On an individual level we will investigate the role of religiosity and on a country level we will investigate the moderating role of a country's cultural values of individualism and self-expression.

1.3.1 Individual-level moderators: religiosity. Religiosity, defined here as belonging to a particular religion and finding it important in one's daily life, has long been associated with positive mental health outcomes (Koenig & Larson, 2009). More specifically, it has been associated with increased subjective well-being (Witter, Stock, Okun, & Haring, 1985), and decreased rates of depressive symptoms (Smith, McCullough, and Poll, 2003). These findings have been replicated in youths and adults of

different religious denominations and different cultural and ethnic groups (McCullough & Willoughby, 2009). Hence, the link between religiosity and increased well-being is rather robust.

Several aspects of religiosity are believed to contribute to increased psychological well-being. Religions provide individuals with positive coping strategies in the face of difficult situations (McCullough & Willoughby, 2009). Examples of such strategies include: religious reappraisal of stressful events, collaborative coping, and religious surrender (McCullough & Willoughby, 2009). Such forms of religious coping have been positively associated with satisfaction with life and happiness, and negatively associated with anxiety and depression (Ano & Vasconcelles, 2005). A second aspect of religiosity that contributes to well-being is the social support network it provides for its practitioners (Joiner, Perez, & Walker, 2002). A final aspect that is believed to partially explain the relation between religiosity and well-being is its role in increasing an individual's self-regulation and self-control skills (McCullough & Willoughby, 2009). Such evidence suggests that religiosity protects individuals against stress and mental illness by providing them with strategies that promote mental health. In the present study we propose that religiosity can protect individuals from the potential negative effects of social pressure to be happy and not sad by giving them the coping strategies and a supportive community to deal with unwanted and socially unacceptable negative emotions.

Taking into account the robust association between religiosity and well-being as well as the many ways in which religiosity contributes to mental health and protects against anxiety and depression, we predict that the level of well-being of more religious individuals will be less affected by social pressure to be happy and not sad than that of less religious individuals.

1.3.2 Country-level moderators. As discussed above, two dimensions which consistently and robustly measure fundamental differences in cultural values are the individualism/collectivism and the survival/self-expression dimension (Hofstede, 2001; Inglehart & Oyserman, 2004). Both the Individualism and Survival dimension are related to life satisfaction across nations (Diener et al., 1995; Hofstede, 2001; Inglehart & Welzel, 2005) and moderate the relationship between the experience of positive and negative emotions and life satisfaction (Kuppens et al., 2008). While positive and negative emotions are universally viewed as preferable or unpreferable respectively, national and cultural differences define how important these emotional experiences are to life satisfaction (Kuppens et al., 2008).

1.3.2.1 Individualism. Individualistic nations are more sensitive to negative emotions, and negative emotions determine life satisfaction more strongly than in collectivistic nations (Kuppens et al., 2008; Suh, Diener, Oishi & Triandis, 1998). Earlier studies have found the link between social expectancies and reduced well-being to be stronger in Western countries (Bastian et al., 2012). In comparison, in collectivistic cultures personal feelings of happiness may not be required to be satisfied with life, and therefore negative experiences have a smaller impact on well-being (Kuppens et al., 2008).

While in Eastern, more collectivistic countries, expressing positive affect is less desirable, in individualistic cultures, negative emotions do not correspond to the emotional social norms, and thus have a larger impact on a person's global well-being (Kuppens et al., 2008). In individualistic cultures, happiness is valued more highly. When negative emotions are experienced, a mismatch between felt emotions and the social expectancies develops, which is rated more negatively in individualistic countries. As negative emotions have a stronger association with life satisfaction in individualistic countries, this leads to a stronger reduction in life satisfaction in cultures high on the Individualism dimension. Therefore, we expect that social pressure to be happy will lead to a stronger reduction of global well-being in life satisfaction in individualistic nations.

1.3.2.2 Self-expression. In nations valuing self-expression, positive emotional experiences are related more strongly to global well-being than in nations emphasizing survival (Kuppens et al., 2008). As suggested in the paper by Bastian et al. (2012), we will investigate the link between social pressure to be happy, well-being and the cultural dimensions of Individualism and Survival in an exploratory fashion.

As positive emotion experiences are related more strongly to global well-being than in nations emphasizing survival (Kuppens et al., 2008), we expect that social pressure to be happy and not sad will have a stronger association with reduced global well-being in self-expression nations. In cultures emphasizing self-expression, happiness is valued more highly. When negative emotions are experienced, a bigger mismatch between felt emotions and the social expectancies develops, leading to a stronger reduction in life satisfaction in cultures low on the Survival dimension.

1.4 The Present Research

The goal of the current study is to replicate the findings of Bastian et al. (2012) that indicate that social pressure to not feel negative emotions leads to reduced well-being. Additionally, the variables influencing social pressure to feel happy and not sad are investigated. Finally, it seeks to study the variables that impact the relation of social pressure and well-being. Each of these steps is done at an individual level as well as at a country level. Below, we provide a summary of the two models being tested in this study: the ILM and the CLM model. Each model includes the social pressure correlates, moderating variables, as well as a summary of the predictions.

1.4.1 Individual-level model. The ILM seeks to replicate the findings that social pressure to feel happy and not sad leads to reduced well-being (Bastian et al. 2012, 2014) at the level of the individual (Figure 3). As previously mentioned, we expect that individuals who experience a high social pressure to be happy and not sad, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions.

Moreover, the ILM investigates three potential correlates of social pressure to be happy and not sad: gender, religion, and hedonism. With regards to gender, the model predicts that women will experience higher levels of social pressure than men. With regards to religion, the model predicts that Christian individuals will experience higher levels of social pressure to be happy in comparison to Buddhist individuals. Lastly, with respect to hedonism, the model predicts that individuals who rate hedonism as a guiding principle of life will experience higher levels of social pressure to be happy and not sad.

Finally, the ILM proposes religiosity as a moderating variable for the relation between social pressure to be happy and not sad and well-being. Taking into account the previously discussed association between religiosity and well-being, the ILM predicts that religious individuals' level of well-being will be less affected by social pressure to be happy and not sad than less religious individuals' level of well-being.

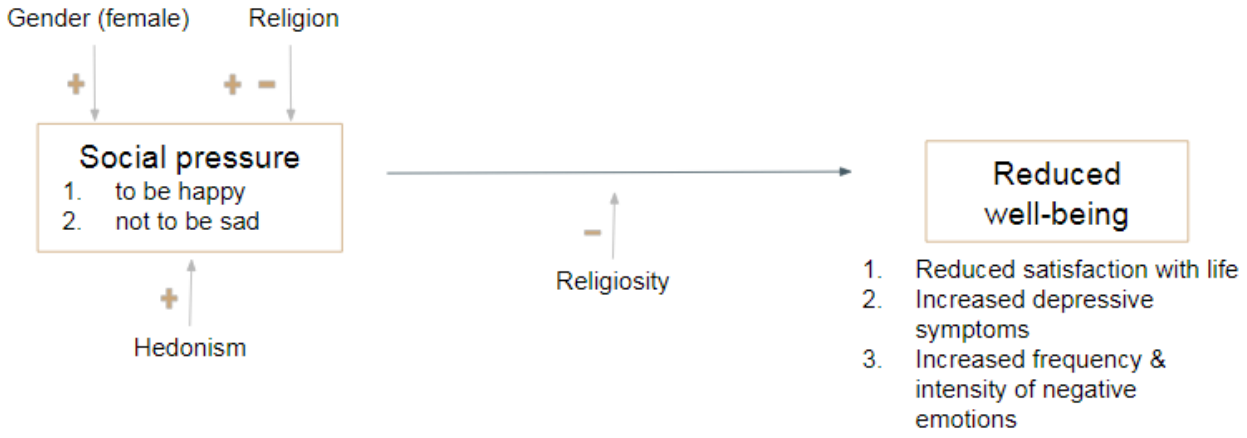

Figure 3: Individual-level model depicting the relation between social pressure to be happy and not sad and well-being. Social pressure is influenced by an individual's gender, religion and level of hedonism. The relation between social pressure and well-being is moderated by the individual's level of religiosity. Global well-being is constructed of satisfaction with life, depressive symptoms, and frequency and intensity of negative emotions.

1.4.2 Individual-level hypotheses. On the basis of the literature just summarized, four hypotheses are thus formulated.

1. Higher social pressure to feel happy and not sad will lead to reduced satisfaction with life, increase in depressive symptoms, and increased frequency and intensity of negative emotions.
    a. This will be moderated by religiosity, with religious individuals experiencing increased well-being in comparison to less religious individuals.
2. Women will experience higher social pressure to be happy and not sad than men.
3. Religious denomination will influence social pressure to be happy.

   a. Individuals belonging to a Christian religious tradition will experience higher levels of social pressure to be happy than individuals belonging to a Buddhist religious tradition.
4. Individuals who value hedonism will experience higher social pressure to be happy and not sad.

1.4.3 Country-level model. The present study should replicate the findings that social pressure to feel happy and not sad leads to reduced well-being (Bastian et al. 2012, 2014) on a country level (Figure 4). Therefore, we expect that countries in which the social expectancy to feel happy is comparatively high, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions. Reduced well-being will be further conceptualized by adding national indicators of depression. Congruent with the results of previous studies that found that social pressure predicts depressive symptoms (Dejonckheere et al., 2017) we predict that countries with high levels of social pressure will exhibit higher major depressive disorder (MDD) prevalence rates, as well as higher suicide rates.

Furthermore, the CLM examines variables that correlate with country-level social pressure: individualism, self-expression and social media. The model predicts that in individualistic cultures the social pressure to be happy is higher than in collectivistic cultures. In an exploratory fashion, we hypothesize that in self-expression cultures the social pressure to be happy will be higher than in survival cultures. Additionally, regarding social media, we hypothesize that social media pervasiveness is correlated with perceived social pressure to be happy.

Lastly, variables moderating the relation between social pressure to be happy and not sad are investigated. The CLM model expects that higher social pressure to be happy will lead to a stronger reduction of global well-being in individualistic nations, as well as in self-expression nations.

Figure 4: Country-level model depicting the relation between social pressure to be happy and not sad and well-being. Social pressure is influenced by a nation's level of individualism, self-expression and social media use. The relation between social pressure and well-being is moderated by a nation's level of individualism and self-expression. Global well-being is constructed by nation averages satisfaction with life, depressive symptoms, frequency and intensity of negative emotions, and their depression and suicide rate.

1.4.4 Country-level hypotheses. On the basis of the literature just summarized, four hypotheses are formulated.

1. Countries with higher levels of social pressure to feel happy and not sad will have reduced satisfaction with life scores, increased depression scores, increased suicide rates and increased frequency and intensity of negative emotions scores.
    a. This will be moderated by individualism scores, with higher scores leading to higher levels of reduced well-being.
    b. This will be moderated by self-expression scores, with higher scores leading to higher levels of reduced well-being.
2. In individualistic countries the social pressure to be happy and not sad will be higher than in collectivistic countries.
3. In countries with high self-expression scores, the social pressure to be happy and not sad will be higher than in countries with high survival scores.
4. Countries with higher rates of social media use will have higher levels of social pressure to feel happy and not sad.

2. Method

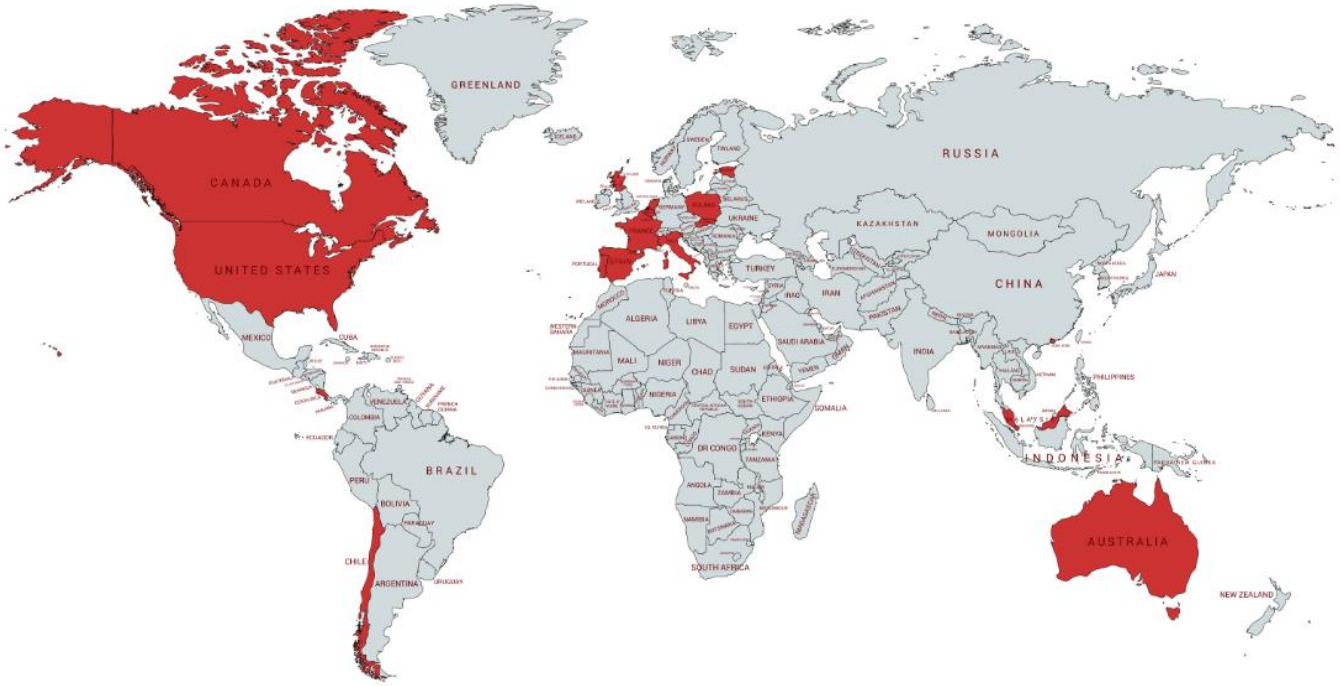

Figure 5: Participants from 18 countries were included in the present study.

2.1 Participants

After the procedure was approved by a local ethics committee at each collaboration site, the participants were recruited. Participants were first year psychology students recruited in the university environment and received course credit for their studies at most collaboration sites. Data collected from the collaboration sites between the 1.10.2017 and the 25.12.2018 was included in the analysis. Collaborators were asked to recruit a minimum of 100 participants. This was done in order to find a balance between having enough power for individual country analyses while at the same time asking for a feasible effort from collaborators. A post-hoc power analysis was conducted. Participants (N = 2928, 2046 females) from 18 countries were included in the results. Participants were between 16 and 62 years old, with an average age of M = 23.71 (SD = 8.03). The countries included in our analysis were Australia, Belgium, Canada, Chile, Costa Rica, Estonia, France, Hong Kong, Italy, Malaysia, Netherlands, Poland, Portugal, Scotland, Singapore, Slovakia, Spain and the USA (Figure 5).

2.2 Materials and Procedure

After filling out an informed consent form, participants were provided with 1 questionnaire with 17 sub-sections regarding social expectancies, life satisfaction, emotions, and illness, amongst others, as well as asked for demographic information. The questionnaires were distributed through the preferred

means of each collaborator, including online via the experience management company Qualtrics (2002), starting October 2017 and still ongoing. At the beginning of each questionnaire participants were given the corresponding instructions and answering scale for the following measure. For the present study, only a selection of the administered questionnaires is relevant. They are listed in detail below, as well as the additional country level measures used in our analyses.

Questionnaires were distributed in the respective national language of each country. When validated translations were not available, the given questionnaire was translated into the native language (and back-translated by some but not all collaborators). It was ensured that the translation captured the original meaning of the items.

The theoretical background, hypotheses, method, and code for the statistical analysis were pre-registered at the Open Science Framework on the 4th of December 2018 (https://osf.io/j4qrc/). Data was not viewed prior to the stopping date for data collection for this project (25.12.2018).

2.2.1 Individual-level measures.

2.2.1.1 Social Expectancies about Depression and Anxiety Scale (SEDAS). Social pressure to not be sad as well as social pressure to be happy were measured by the Social Expectancies about Depression and Anxiety Scale (SEDAS; Bastian, Dejonckheere, & Kuppens, in preparation). The SEDAS measures an individual's perception of how society in general views different emotional states such as depression, anxiety, but also happiness. Participants were asked to indicate the extent to which they agreed with the statement on a scale from 1 (*Strongly Disagree)* to 9 (*Strongly Agree)*. 13 items measured the perceived expectancies of society not to feel sad and depressed (e.g. "Society generally expects people NOT to feel depressed or anxious"), of which 4 items were reversed (e.g. "I think it is socially acceptable to feel depressed or anxious") and recoded before analysis. 9 items measured the perceived pressure to feel happy (e.g. "People in my society view people who feel happy as more valuable"). Social pressure to be happy and not to be sad were analyzed as two separate dependent variables. The average Cronbach's alpha for social pressure to be happy and social pressure not to be sad were 0.80 and 0.79, respectively.

2.2.1.2 Psychological well-being. Individual psychological well-being was determined by multiple measures: life satisfaction, depressive symptoms, and frequency and intensity of negative emotions.

2.2.1.2.1 Satisfaction With Life Scale (SWL). Life satisfaction was assessed with the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985). Individuals indicated on a scale from 1 (*Strongly Disagree)* to 7 (*Strongly Agree)* how much they agreed with 5 items (e.g. "If I could live my life over, I would change almost nothing"). The average Cronbach's alpha for life satisfaction was 0.85.

2.2.1.2.2 Depression Anxiety Stress Scale (DASS). Individual's depressive symptoms were measured with a 21-item version of the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond,

1995a). Participants had to indicate on a scale of 0 (*Did not apply to me at all)* to 3 (*Applied to me very much, or most of the time)* to what degree each statement (e.g. "I found it difficult to work up the initiative to do things") applied to them over the past week. Only the Depression scale (7 items) was included in our analyses, as the criterion of interest was depression. The average Cronbach's alpha for the Depression scale was 0.9.

2.2.1.2.3 Frequency and intensity of negative emotions. Frequency and intensity of negative emotions was determined by asking participants to indicate how often (*1 = None of the time; 9 = All of the time)* and how intensely (*1 = Very mild; 9 = Very intense)* they experienced a list of 4 negative emotions (anxious, depressed, stressed, and sad). The list of emotions covered both high arousal (anxious, stressed) and low arousal (depressed, sad) emotions. Emotions were chosen based on similar measures used in previous studies (Bastian et al., 2012; 2014). The average Cronbach's alpha for the frequency and intensity of negative emotions were 0.83 and 0.80, respectively.

***2.2.1.3 Schwartz Value Survey (Hedonism*).** The value individuals place on hedonism was measured by the Schwartz Value Survey which asked participants to rate the personal importance of ten values, one of which was hedonism, on a 9-point scale ranging from 7 (*of supreme importance*) to -1 (*opposed to my values*) (Schwartz, 2012). Hedonism was defined as "to have pleasure, enjoy life (food, sex, leisure, etc.) and to do pleasant things".

2.2.1.4 Religious denomination and religiosity. Religious denomination was measured by two items, asking participants to indicate whether or not they followed a religion, and if yes, which religion they followed ("Do you follow a religion? If so, please write in your religion below. If not, please write 'N/A'"). Religiosity was determined by asking participants how important religion was to them on a scale of 1 (*not at all important*) to 7 (*extremely important*) ("If you do follow a religion, how important is that religion in your daily life?").

2.2.1.5 Other demographics. Each participant was asked to indicate their gender on the Demographics survey by choosing one of three options: male, female, and other.

2.2.2 Country-level measures.

2.2.2.1 Social Expectancies about Depression and Anxiety Scale (SEDAS). Country-level social pressure to be happy and social pressure to not be sad was measured by averaging the individual SEDAS scores per country (see 2.2.1.1).

2.2.2.2 Psychological well-being. Country psychological well-being was determined by multiple measures: life satisfaction, depressive symptoms, frequency and intensity of negative emotions as well as national depression and suicide prevalence rates.

2.2.2.2.1 Life satisfaction, Depression Anxiety Stress Scale & frequency and intensity of negative emotions. Country-level life satisfaction, depressive symptoms, and frequency and intensity of negative

emotions were measured by averaging the individual SWL, DASS, and Frequency and Intensity of Negative emotions scores per country (see 2.2.1.2.1 - 2.2.1.2.3).

2.2.2.2.2 National prevalence for Major Depressive Disorder (MDD). National prevalence percent for Major Depressive Disorder (MDD) were taken from the Global Health Data Exchange (2016). Data on depression prevalence was available for all 18 countries. Prevalence of major depressive disorder was not available for Scotland or Hong Kong separately, therefore United Kingdom and China scores were used, respectively.

2.2.2.2.3 National prevalence of suicide. Suicide rates were taken from the World Health Organization (2015). The rates were reported as the number of people who committed suicide per 100,000. Data on national prevalence of suicide was available for all 18 countries. Suicide prevalence was not available for Scotland or Hong Kong separately, therefore United Kingdom and China scores were used, respectively.

2.2.2.3 Index of individualism by Hofstede. A nation's level of individualism was assessed with the Index of Individualism by Hofstede (Hofstede Insights, 2018), with 0 being most collectivistic and 100 being most individualistic, and which was available for all 18 countries analyzed in our study. The Hofstede index was not available for Scotland separately, therefore the United Kingdom score was used.

2.2.2.4 World Values Survey variable of self-expression. A nation's level of survival/self-expression was assessed based on the Emancipative Values Index (culture map version, Welzel, 2013), a conceptual refinement of Inglehart and Welzel's (2005) variable of self-expression. Scores are based on a factor analysis on data from the World Values Surveys (Inglehart et al., 2014) including all countries and time points. Factor scores represent negative and positive deviations from the zero-mean, with more positive values indicating higher levels of self-expression and more negative scores indicating higher levels of survival. Survival/self-expression scores were available for 15 of the 18 countries analyzed in our study, not being available for Belgium, Costa Rica and Portugal. The self-expression index was not available for Scotland separately, therefore the United Kingdom score was used.

2.2.2.5 Social media. Social media penetration per country was gathered from We Are Social's 2018 index, which was available for all 18 countries in our study. Social media penetration measures the percentage of monthly active accounts on the top social network in each country, compared to population. Social media penetration was not available for Scotland separately, therefore the United Kingdom score was used.

2.3 Pre-registered Analyses

2.3.1 Preliminary analyses. The data analysis was conducted using the statistical computing program R. Data files were obtained from 18 collaboration sites and were reduced to contain only the

variables relevant to the present study: the SEDAS items measuring social pressure to not be sad, the SEDAS items measuring social pressure to be happy, the SWL scores, DAAS items, intensity and frequency of negative emotions, hedonism scores, as well as the demographics. Four items from the SEDAS were reversed. Country-level variables (i.e. national suicide and depression prevalence, individualism, survival/self-expression, and social media penetration) were acquired from external sources. Furthermore, gender and religious denominations were recoded.

Averages were computed on the individual and country level. First, individual composite scores for each participant were calculated for the variables: social pressure to be happy, social pressure to not be sad, satisfaction with life, depression, and intensity and frequency of negative emotions, creating the individual-level variables. For all but depression, the composite score was calculated by averaging across all items. The composite depression score was calculated by summing across all items and multiplying the score by two (Lovibond & Lovibond, 1995b). Next, these variables were averaged per country, creating the country-level variables. Missings were not imputed. All variables were centered, and all analyses performed using centered variables. Additionally, for each country the standard deviation of each measure was computed. Descriptives and Pearson correlations were computed across all measures at the individual and country level.

2.3.2 Aim 1: Replication at individual and country level.

2.3.2.1 Individual level. We hypothesized that in individuals, both higher social pressure to feel happy and higher social pressure to be not sad would be associated with reduced satisfaction with life, increase in depressive symptoms, and increased frequency and intensity of negative emotions. This hypothesis was analyzed by using simple regression models with social pressure to be happy and social pressure to not be sad as the predictors and each well-being variable as a criterion separately. Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 < 0$$

$$Well - being_i = \beta_0 + \beta_1 Social\ Pressure_i + \epsilon_i$$

2.3.2.2 Country level. We hypothesized that countries with higher levels of both social pressure to feel happy and social pressure not to be sad would have reduced satisfaction with life scores, increased depression scores, increased suicide rates and increased frequency and intensity of negative emotions scores. This hypothesis was analyzed by using simple linear regression models with social pressure to not be sad and social pressure to be happy as the predictors and well-being as the criterion. Country-level

well-being was measured by life satisfaction, depressive symptoms, frequency and intensity of negative emotions as well as national depression and suicide prevalence rates.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 < 0$$

$$Well - being_j = \beta_0 + \beta_1 Social\ Pressure_j + \epsilon_j$$

2.3.3 Aim 2: Correlates of social pressure to be happy and not sad.

2.3.3.1 Individual-level correlates. We hypothesized that gender, religious denomination and hedonism would correlate with individual levels of social pressure to be happy and social pressure to not be sad. Each correlate was analyzed as the predictor in a separate simple linear regression model with social pressure to be happy and social pressure to not be sad as the criterions.

2.3.3.1.1 Gender. We predicted that women would experience higher social pressure to be happy and higher social pressure to not be sad than men. Gender was treated as a categorical predictor with two levels: male and female with female being 1 and male being 0.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

$$Social\ Pressure_i = \beta_0 + \beta_1 Gender_i + \epsilon_i$$

2.3.3.1.2 Religious Denomination. We predicted that individuals belonging to a Christian religious tradition would experience higher levels of social pressure to be happy than Buddhists. In an exploratory fashion, we predicted that individuals belonging to a Christian religious tradition would experience higher levels of social pressure to not be sad than Buddhists. Dummy variables for all religious denominations were created on the basis of participants' responses to the open question on religious denomination. Only Christian and Buddhist religious denominations were taken into account for the analysis, with Christian being 1 and Buddhist being 0.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

$$Social\ Pressure_i = \beta_0 + \beta_1 ReligiousDenomination_i + \epsilon_i$$

2.3.3.1.3 Hedonism. We hypothesized that individuals who value hedonism would experience higher social pressure to be happy and higher social pressure to not be sad.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

$$Social\ Pressure_i = \beta_0 + \beta_1 Hedonism_i + \epsilon_i$$

2.3.3.2 Country-level correlates. We hypothesized that individualism, self-expression, and social media would correlate with country levels of social pressure to be happy and social pressure to not be sad. Each variable was analyzed as a predictor with separate simple linear regression models with social pressure to be happy and social pressure to not be sad as criterions.

2.3.3.2.1 Individualism. We predicted that in individualistic countries the social pressure to be happy and social pressure not to be sad would be higher than in collectivistic countries.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

$$Social\ Pressure_j = \beta_0 + \beta_1 Individualism_j + \epsilon_j$$

2.3.3.2.2 Self-expression. We hypothesized that in countries with high self-expression scores, the social pressure to be happy and not to be sad would be higher than in countries with high survival scores.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

$$Social\ Pressure_j = \beta_0 + \beta_1 Self - expression_j + \epsilon_j$$

2.3.3.2.3 Social media. We predicted that countries with higher rates of social media use would have higher levels of social pressure to feel happy and higher levels of social pressure to not feel sad.

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

$$Social\ Pressure_j = \beta_0 + \beta_1 Social\ Media_j + \epsilon_j$$

2.3.4 Aim 3: Moderating factors of the relation between social pressure and well-being.

2.3.4.1 Individual-level moderating factors.

2.3.4.1.1 Religiosity. We hypothesized that in individuals, the relationship between social pressure to be happy as well as social pressure to not be sad and well-being would be moderated by religiosity. Specifically, we predicted that religious individuals who find religion important for their daily life, experience increased well-being in comparison to individuals who find religion less important for their daily life. We analyzed this by using multiple linear regression models with social pressure to be happy, social pressure to not be sad and religiosity as the predictors and well-being as the criterion. Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions. Furthermore, a model with moderator, without moderator and without moderator or religiosity was compared to determine which model fit the data best. The rule of thumb for AIC model

comparison states that an AIC difference larger than 10 between a selected model and the minimum AIC value indicates essentially no support for the selected model (Burnham & Anderson, 2002). AIC model comparison was used for all model comparisons.

$$H_0: \beta_3 = 0$$

$$H_1: \ \beta_3 > 0$$

$$Well - being_i = \beta_0 + \beta_1 Social\ Pressure_i + \beta_2 Religiosity_i + \beta_3 (Social\ Pressure_i * Religiosity_i) + \epsilon_i$$

2.3.4.2 Country-level moderating factors.

2.3.4.2.1 Individualism. We hypothesized that on a country level, the relationship between social pressure to be happy and social pressure to not be sad and well-being would be moderated by individualism scores. We predicted that countries with higher individualism scores would have even higher levels of reduced well-being compared to countries with lower individualism scores. We analyzed this by using a multiple linear regression model with social pressure to be happy and individualism as predictors, an interaction between social pressure and individualism, and well-being as the criterion and once with social pressure to not be sad and individualism as predictors, an interaction between social pressure and individualism and well-being as criterion. Psychological well-being was comprised of life satisfaction, depressive symptoms, frequency and intensity of negative emotions, national depression prevalence rates and national suicide prevalence rates. Furthermore, a model with moderator, without moderator and without moderator or individualism was compared to determine which model fit the data best.

$$H_0: \beta_3 = 0$$

$$H_1: \ \beta_3 < 0$$

For life satisfaction, depressive symptoms, frequency and intensity of negative emotions:

$$Well - being_i = \beta_0 + \beta_1 Social\ Pressure_i + \beta_2 Individualism_j + \beta_3 (Social\ Pressure_{ij} * Individualism_j) + \epsilon_{ij}$$

For depression and suicide prevalence:

$$Well - being_j = \beta_0 + \beta_1 Social\ Pressure_j + \beta_2 Individualism_j + \beta_3 (Social\ Pressure_j * Individualism_j) + \epsilon_j$$

2.3.4.2.2 Self-expression. We hypothesized that on a country-level, the relationship between social pressure to be happy as well as social pressure to not be sad and well-being would be moderated by self-expression scores. We predicted that countries with higher scores in self-expression would have higher

levels of reduced well-being in comparison to countries with low levels of self-expression. We analyzed this by doing a multiple linear regression once with social pressure to be happy and self-expression as predictors, an interaction between social pressure and self-expression, and well-being as the criterion and once with social pressure to not be sad and self-expression as predictors, an interaction between social pressure and self-expression, and well-being as criterion. Psychological well-being was comprised of life satisfaction, depressive symptoms, frequency and intensity of negative emotions, national depression prevalence rates and national suicide prevalence rates. Furthermore, a model with moderator, without moderator and without moderator or self-expression was compared to determine which model fit the data best.

$$H_0: \beta_3 = 0$$

$$H_1: \ \beta_3 < 0$$

For life satisfaction, depressive symptoms, frequency and intensity of negative emotions:

$$Well - being_i = \beta_0 + \beta_1 Social\ Pressure_i + \beta_2 Self - expression_j$$
$$+\beta_3 (Social\ Pressure_{ij} * Self - expression_j) + \epsilon_{ij}$$

For depression and suicide prevalence:

$$Well - being_j = \beta_0 + \beta_1 Social\ Pressure_j + \beta_2 Self - expression_j$$
$$+\beta_3 (Social\ Pressure_j * Self - expression_j) + \epsilon_j$$

2.3.5 Divergence from pre-registration. Our pre-registration stated that multilevel models would be used to test many of our hypotheses (see https://osf.io/j4qrc/). Multilevel models were chosen because we expected to observe similar patterns amongst individuals of the same country (i.e. we expected the data to be nested). Additionally, many of our multilevel models were random intercept and slope models because the literature recommends using a maximal random effects structure for confirmatory hypothesis testing (Barr, Levy, Scheepers, & Tily, 2013).

However, we opted for simple linear regression models instead of multilevel models and our reasons for doing this are threefold. First, there was insufficient power at the group-level to conduct multilevel analyses. The literature states that at least 30 groups with 30 individuals each are needed to obtain accurate regression coefficients for multilevel models (Kreft, 1996). Moreover, a large number of groups is more important than the number of individuals per group (Maas & Hox, 2005). According to the aforementioned rules of thumb, the present study lacked sufficient groups as data from only 18 countries was analyzed. Second, intraclass correlation coefficients of all our multilevel models were less than 0.05, which is the minimum value for the use of mixed effects models (Lüdecke, 2019). Low ICCs indicate there is no considerable difference between average values per country. In other words, the country level

differences were too small to use multilevel models. Lastly, when running the R code for our multilevel models, there were warnings of singularity. According to Lüdecke (2019), singularity warnings indicate overfitted models with inadequate power. One of the ways to deal with singular fit is to begin with the most complex model and remove random slope terms one by one until there are no more issues with singularity (Barr et al., 2013). This method was used but singularity problems persisted. Therefore, simpler models were deemed the most accurate way to test our hypotheses.

Furthermore, for the country level moderation models (Aim 3) using national depression and suicide prevalence rates as indicators of well-being, we had originally indicated the use of individual-level social pressure scores to predict country-level well-being scores. However, the statistical package for regression modeling we are using in R does not allow the predicting of group-level outcome variables from variables at the individual level (Croon & van Veldhoven, 2007). Therefore, we changed these models to include country-level social pressure scores.

The updated code for our analyses, including simple regression models and additional exploratory models, can be found at our pre-registration (see https://osf.io/j4qrc/).

2.4 Exploratory analyses.

To get a clearer picture of the associations between the variables studied, and to elucidate the results of the pre-registered analyses, exploratory analyses were conducted.

2.4.1 Social pressure to be happy vs. social pressure to not be sad. To explore whether social pressure to be happy was significantly greater than social pressure to not be sad in our sample, a one-tailed Welch's t-test was conducted.

$$SocialPressureToBeHappy_i > SocialPressureToNotBeSad_i$$

2.4.2 Gender.

2.4.2.1 Gender and frequency and intensity of negative emotions. Since Pearson's correlation coefficients indicated significant correlations between gender and both frequency and intensity of negative emotions, simple regression models were run to explore the relationship between these variables across all individuals. The first regression model consisted of frequency of negative emotions as the outcome variable and gender as a categorical predictor coded as 1 being female and 0 being male.

$$Frequency\ of\ negative\ emotions_i = \beta_0 + \beta_1 Gender_i + \epsilon_i$$

The second regression model consisted of intensity of negative emotions as the outcome variable and gender as a categorical predictor coded as 1 being female and 0 being male.

$$Intensity\ of\ negative\ emotions_i = \beta_0 + \beta_1 Gender_i + \epsilon_i$$

2.4.2.2 Gender as a moderating factor of the relation between social pressure and well-being. Since confirmatory analyses showed that women experienced higher levels of social pressure to be happy and not sad than men and since there were significant correlations between female gender and increased frequency and intensity of negative emotions, we explored gender as a potential moderating factor of the relation between social pressure and reduced well-being. We explored this by using a multiple linear regression model once with social pressure to not be sad and gender as predictors, an interaction between social pressure to not be sad and gender, and well-being as the criterion and once with social pressure to be happy and gender as predictors, an interaction between social pressure to be happy and gender, and well-being as criterion. Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

$$Well - being_i = \beta_0 + \beta_1 Social\ Pressure_i + \beta_2 Gender_i + \beta_3 (Social\ Pressure_i * Gender_i) + \epsilon_i$$

2.4.3 Religion.

2.4.3.1 Practicing a religion as a correlate of social pressure. To explore if there were differences in the experience of social pressure to be happy and not sad between religious and non-religious individuals, we conducted simple linear regression analyses across all individuals with social pressure to be happy and not sad as criterion and religion as a categorical predictor coded as 0 being non-religious and 1 being religious.

$$Social\ Pressure_i = \beta_0 + \beta_1 Religion_i + \epsilon_i$$

2.4.3.2 The relation between practicing a religion and well-being. Since previous research has shown that practicing a religion is associated with increased well-being, we ran simple linear regression models across all individuals with well-being as criterion and religion as a categorical predictor coded as 0 being non-religious and 1 being religious. Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

$$Well - Being_i = \beta_0 + \beta_1 Religion_i + \epsilon_i$$

2.4.3.3 Practicing a religion as a moderating factor of the relation between social pressure and well-being. To explore whether practicing a religion moderated the relation between social pressure and well-being, we used multiple linear regression models once with social pressure to not be sad and religion as predictors, an interaction between social pressure to not be sad and religion, and well-being as the criterion and once with social pressure to be happy and religion as predictors, an interaction between social pressure to be happy and religion, and well-being as criterion. Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

Religion was once again a categorical predictor coded as 0 being non-religious and 1 being religious. Note that in this analysis practicing a religion means saying yes to the item "Do you follow a religion? If so, please write in your religion below", whereas in the pre-registered analysis religiosity refers to the answer to the item "If you do follow a religion, how important is that religion in your daily life?".

$$Well-being_i = \beta_0 + \beta_1 Social\ Pressure_i + \beta_2 Religion_i + \beta_3 (Social\ Pressure_i * Religion_i) + \epsilon_i$$

2.4.4 Hedonism.

2.4.4.1 Hedonism and well-being at the individual level. Since Pearson's correlation coefficients indicated significant positive correlations between hedonism and both frequency and intensity of negative emotions across individuals, simple regression models were run to explore the relationship between hedonism and well-being. The regression models consisted of hedonism as a predictor and well-being as the outcome variable. Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

$$Well-Being_i = \beta_0 + \beta_1 Hedonism_i + \epsilon_i$$

2.4.4.2 Hedonism and well-being at the country level. Since at the country-level, Pearson's correlation coefficients indicated significant positive correlations between hedonism and depressive symptoms as well as hedonism and country-wide depression rates, simple regression models were run to explore the relationship between country-level hedonism and well-being. The regression models consisted of country averages of hedonism as a predictor and country averages of well-being as the outcome variable. Psychological well-being was comprised of life satisfaction, depressive symptoms, frequency and intensity of negative emotions, as well as national depression and suicide prevalence rates.

$$Well-Being_j = \beta_0 + \beta_1 Hedonism_j + \epsilon_j$$

2.4.4.3 Hedonism and social pressure at the country-level. Our confirmatory analyses investigated the relation between hedonism and social pressure to be happy and not sad across individuals. In order to explore this relationship at the country-level, we ran simple linear regression models with country averages of hedonism as predictor and country averages of social pressure as criterion. Social pressure to be happy and social pressure to not be sad were assessed in separate models.

$$Social\ Pressure_j = \beta_0 + \beta_1 Hedonism_j + \epsilon_j$$

2.4.5 Religiosity and well-being. Previous research has established a robust association between religiosity and increased well-being. Therefore, we ran simple linear regression models across all individuals with well-being as criterion and religiosity as a predictor, to replicate these findings.

Psychological well-being was comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

$$Well - Being_i = \beta_0 + \beta_1 Religiosity_i + \epsilon_i$$

2.4.6 Sample individualism and self-expression. To explore whether the individualism and self-expression scores in our sample were significantly greater than the respective scale means, one-sided Welch's t-tests were conducted.

$$Individualism_i > 50$$
$$Self - expression_i > 0$$

3. Results

3.1 Preliminary Analyses

Table 1 presents the means and standard deviations of all measures per country and Table 2 presents the means and standard deviations of all measures across countries. Correlations among all variables at the individual and country level are presented in Table 3 and Table 4 respectively. Correlations at the individual level revealed that social pressure to be happy and social pressure to not be sad were significantly positively correlated. Moreover, both social pressure to be happy and social pressure to not be sad were positively and significantly correlated with depressive symptoms, frequency and intensity of negative emotions, and female gender. Social pressure to be happy and social pressure to not be sad were also significantly negatively correlated with satisfaction with life. Social pressure to not be sad was significantly negatively correlated with being Christian. Country-level correlations also revealed a significantly positive association between social pressure to be happy and social pressure to not be sad. At the country level, social pressure to be happy was significantly correlated with both frequency of negative emotions and social media penetration.

Table 1. Means and standard deviations of all measures per country.

Country	N	Social pressure to not be sad		Social pressure to be happy		Satisfaction with life		Depressive symptoms		Frequency of negative emotions		Intensity of negative emotions		Self-expression score	Individualism index	Social media penetration	MDD prevalence rate	Suicide prevalence rate	Hedonism		Religiosity	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*						*M*	*SD*	*M*	*SD*
Australia	409	5.50	1.06	6.03	1.17	4.29	1.27	28.34	10.34	5.08	1.63	5.11	1.73	2.05	90	69	3.30	13.2	6.65	1.98	2.93	1.94
Belgium	225	5.58	1.13	6.04	1.23	4.69	1.31	24.57	10.28	4.27	1.68	4.44	1.74	NA	75	65	3.04	20.7	7.65	1.62	2.23	1.54
Canada	176	5.64	1.14	6.22	1.22	4.80	1.14	25.14	9.36	4.88	1.75	4.86	1.84	1.64	80	68	2.19	12.5	6.91	1.92	2.23	1.83
Chile	69	6.01	0.99	6.58	1.12	4.90	1.25	26.03	9.45	5.26	1.48	5.33	1.58	1.27	23	77	2.79	10.6	5.16	2.31	4.08	2.38
Costa Rica	130	6.10	1.26	6.60	1.12	4.61	1.20	26.47	10.11	5.71	1.58	5.60	1.75	NA	15	69	2.20	7.9	6.67	1.93	3.55	2.26
Estonia	63	5.42	1.19	5.50	1.43	4.83	1.14	23.32	8.05	4.60	1.60	4.72	1.72	0.53	60	55	3.18	17.8	6.04	1.98	2.47	2.18
France	191	5.95	1.15	6.16	1.25	4.29	1.30	27.82	11.03	5.21	1.89	5.14	2.07	1.92	71	58	3.27	17.7	7.14	2.06	2.76	2.07
Hong Kong	211	5.36	0.79	5.91	1.05	4.05	1.07	29.24	9.95	4.92	1.60	5.00	1.58	-0.08	25	78	2.11	9.7	6.73	1.85	3.46	1.69
Italy	222	5.98	1.15	5.86	1.28	4.23	1.21	26.39	9.83	4.95	1.46	5.08	1.66	0.37	76	57	2.50	8.2	6.17	1.85	2.81	2.06
Malaysia	175	5.49	0.95	6.46	1.11	4.42	1.05	14.12	8.73	4.96	1.86	4.90	1.86	-0.97	26	75	1.97	5.5	2.91	2.33	6.64	0.75
Netherlands	110	5.61	1.11	5.89	1.11	4.71	1.10	22.75	9.38	4.21	1.57	4.38	1.83	2.23	80	64	2.58	12.6	6.71	1.98	3.00	2.23
Poland	116	4.39	1.03	5.61	1.39	4.33	1.21	26.50	9.61	4.89	1.89	5.06	1.88	0.53	60	45	1.62	16.2	6.03	1.85	3.33	2.01
Portugal	137	6.01	1.15	6.23	1.08	4.57	1.25	26.53	10.37	4.84	1.78	4.94	1.89	NA	27	64	3.20	14.0	7.08	1.92	3.31	2.27
Scotland	110	5.76	1.17	6.21	1.10	4.25	1.36	27.80	10.35	4.85	1.75	5.05	1.96	1.36	89	66	2.90	8.9	6.45	1.88	2.14	1.72
Singapore	102	5.58	1.27	5.85	1.38	4.25	1.27	26.73	10.25	5.19	1.56	4.93	1.88	0.14	20	83	2.29	9.9	6.02	2.50	4.14	1.91
Slovakia	115	5.60	1.19	5.56	1.10	4.45	1.35	23.47	9.32	4.21	1.82	4.60	1.85	-0.35	52	50	1.83	12.8	4.25	1.98	4.70	1.65
Spain	156	6.01	1.20	6.12	1.29	4.70	1.21	20.06	7.80	3.79	1.69	3.83	1.98	2.10	51	58	2.58	8.7	6.72	1.89	2.63	1.92
USA	211	5.65	1.15	6.41	1.20	4.55	1.39	26.16	10.47	4.99	1.87	5.04	1.97	1.71	91	71	3.16	15.3	6.14	2.35	3.88	2.15

Table 2. Means and standard deviations of all measures across countries.

	M	*SD*
Social pressure to not be sad	5.64	1.16
Social pressure to be happy	6.08	1.22
Satisfaction with life	4.45	1.25
Depressive symptoms	25.42	10.50
Frequency of negative emotions	4.84	1.75
Intensity of negative emotions	4.90	1.85
Survival – Self-expression	1.08	1.01
Individualism	61.40	26.49
Social media penetration	65.71	8.72
MDD prevalence rate	2.67	0.53
Suicide prevalence	12.49	4.03
Hedonism	6.30	2.28
Religiosity	3.40	2.20

Table 3. Correlations of all measures at the individual level.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Social pressure to not be sad										
2. Social pressure to be happy	.54***									
3. Satisfaction with life	-.19***	-.04*								
4. Depressive symptoms	.25***	.21***	-.47***							
5. Frequency of negative emotions	.26***	.25***	-.39***	.66***						
6. Intensity of negative emotions	.25***	.24***	-.37***	.60***	.84***					
7. Gender	.06**	.10***	.03	.00	.11***	.11***				
8. Hedonism	.00	.03	-.01	.02	.04*	.04*	.01			
9. Religiosity	-.03	.01	.09***	-.02	.01	.03	.04*	-.19***		
10. Christian	-.04*	.01	.09***	-.06**	-.01	-.01	.04*	-.11***	.45***	
11. Buddhist	.01	.01	-.02	.01	-.01	-.01	-.01	-.01	.06**	-.09***

Table 4. Correlations of all measures at the country level.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Social pressure to not be sad												
2. Social pressure to be happy	.56*											
3. Satisfaction with life	.26	.24										
4. Depressive symptoms	.00	-.10	-.36									
5. Frequency of negative emotions	.10	.47*	-.27	.43								
6. Intensity of negative emotions	.04	.39	-.28	.50*	.96***							
7. Survival – Self-expression	.32	.28	.35	.31	-.15	-.19						
8. Individualism	-.14	-.22	.01	.17	-.31	-.22	.63*					
9. Social media penetration	.30	.57*	-.07	.06	.44	.29	-.07	-.38				
10. MDD prevalence	.44	.20	.20	.28	.01	.00	.64*	.40	.09			
11. Suicide prevalence	-.31	-.37	.24	.28	-.22	-.15	.36	.43	-.41	.45		
12. Hedonism	.16	-.03	.04	.63**	-.05	-.08	.73**	.34	-.07	.48*	.45	
13. Religiosity	-.09	.22	-.14	-.54*	.21	.18	-.67**	-.55*	.31	-.46	-.45	-.87***

3.2 Post-hoc Power Analysis

Post-hoc power analyses were conducted for all individual and country level aims using the program G*Power (Faul, Erdfelder, Buchner & Lang, 2009). Power analyses were done with moderate effect sizes ($R^2 = 0.30$) based on previous research on cross-cultural emotions (Bastian et al., 2014; Eid & Diener, 2001).

For individual-level models, the power calculations yielded the following results. For all Aim 1 individual-level models as well as the Aim 2 models investigating gender and hedonism, a post-hoc power analysis indicated that on the basis of $N = 2928$, one predictor and a significance level of $\alpha = 0.05$, the post-hoc power (1- β) was 1.00. For the Aim 2 models investigating religion, only Buddhist and Christian individuals were included in the analyses, and post-hoc power calculations showed that on the basis of $N = 786$, one predictor and a significance level of $\alpha = 0.05$, the achieved power (1- β) was 1.00. For all the individual-level models of Aim 3, calculated based on $N = 2928$, three predictors and a significance level of $\alpha = 0.05$, the post-hoc power (1- β) was 1.00 as well. This indicated that we had enough power to detect the hypothesized associations for all individual-level models.

For country-level models, the power calculations yielded the following results. For all Aim 1 country-level models as well as the Aim 2 models investigating individualism and social media, a post-hoc power analysis revealed that on the basis of a sample size of 18, one predictor, and a significance level of $\alpha = 0.05$ the achieved power (1- β) was 0.85. For the Aim 2 models investigating survival/self-expression, a power analysis indicated that based on a sample size of 15, one predictor, and a significance level of $\alpha = 0.05$, the achieved power (1- β) was 0.31. With regards to the Aim 3 country-level models including individualism and individual-level well-being scores, a post-hoc power analysis based on a sample size of $N = 2928$, three predictors, and a significance level of $\alpha = 0.05$ revealed an achieved power (1- β) of 1.00. For Aim 3 models including individualism and country-level well-being scores, a post-hoc power analysis based on a sample size of $N = 18$, three predictors, and a significance level of $\alpha = 0.05$ revealed an achieved power (1- β) of 0.84. For the Aim 3 country-level models including self-expression and individual-level well-being scores, a post-hoc power analysis based on a sample size of $N = 2436$, three predictors, and a significance level of $\alpha = 0.05$ revealed an achieved power (1- β) of 1.00. Lastly, for the Aim 3 country-level models including self-expression and country-level well-being scores, a post-hoc power analysis based on a sample size of $N = 15$, three predictors, and a significance level of $\alpha = 0.05$ revealed an achieved power (1- β) of 0.77. This indicated that we had enough power to detect the hypothesized associations for all country-level models except for Aim 2 models involving self-expression as well as Aim 3 models involving self-expression and country-level well-being scores.

3.3 Model Assumptions

Informal graphical tests and the R package Global Validation of Linear Model Assumptions (glvma; Pena & Slate, 2006) were used to test all six crucial assumptions of simple and multiple regression models except for independence. (1) Violations of the normality assumption were assessed based on Normal Q-Q plots and the Shapiro-Wilks test of normality (Royston, 1995). For large sample sizes ($N > 30$) normality of the errors is assumed **(**LaMorte, 2016**)**, therefore all our individual-level models upheld the normality assumption. $N = 5$ of our country-level models had slightly skewed distributions; however, as we are not using the regression models for prediction, "violations are usually not that important" (Tuerlinckx, 2017, p. 147). (2) Based on formal tests and scale-location plots, the assumption of homoscedasticity held for all our models. (3) Next, inspection of scatter plots and residual vs. fitted plots indicated that linearity could potentially be violated in $N = 5$ models. Quadratic models were run as a comparison for these models but did not indicate a better fit than the linear regression models. Therefore, linear models were retained. (4) Influential outliers were identified using residual vs. leverage plots. Models were run with and without outliers to assess their impact on the regression results. In models using individual-level variables no difference in beta coefficients or p-values were found,

therefore the models without outliers will not be reported. However, models using only country-level variables were slightly affected by removing outliers. Results of country models without outliers are reported in the Appendix, and, if the significance level was affected, in the results section (see 3.4-3.6). (5) To check for multicollinearity in multiple regression models, variance inflation factors (VIF) were calculated. The VIF for all models was under 10, which is seen as non-problematic (Tuerlinckx, 2017), and therefore the assumption of multicollinearity is believed to not be violated. (6) Finally, the independence assumption may be violated for our models as individuals are nested within countries. However, low intraclass correlation coefficients indicated there are no considerable differences between average values per country (see 2.3.5).

3.4 Aim 1: Replication at Individual and Country Level

3.4.1 Individual level. Our replication on the individual level was successful. Simple linear regression models indicated that social pressure to not be sad was significantly associated with reduced satisfaction with life (β = -0.21, SE = 0.02, t(2798) = -10.27, $p < 0.001$, $R^2 = 0.04$), increased depressive symptoms (β = 2.26, SE = 0.16, t(2779) = 13.78, $p < 0.001$, $R^2 = 0.06$), increased frequency of negative emotions (β = 0.39, SE = 0.03, t(2785) = 13.93, $p < 0.001$, $R^2 = 0.06$), and increased intensity of negative emotions (β = 0.42, SE = 0.03, t(2781) = 13.86, $p < 0.001$, $R^2 = 0.06$) (Figure 6). Social pressure to be happy was significantly associated with reduced satisfaction with life (β = -0.04, SE = 0.02, t(2802) = -2.04, $p < 0.05$, $R^2 = 0.00$), increased depressive symptoms (β = 1.74, SE = 0.15, t(2783) = 11.33, $p < 0.001$, $R^2 = 0.04$) and increased frequency (β = 0.36, SE = 0.03, t(2787) = 13.75, $p < 0.001$, $R^2 = 0.06$) and intensity of negative emotions (β = 0.37, SE = 0.03, t(2783) = 13.25, $p < 0.001$, $R^2 = 0.06$) (Figure 7).

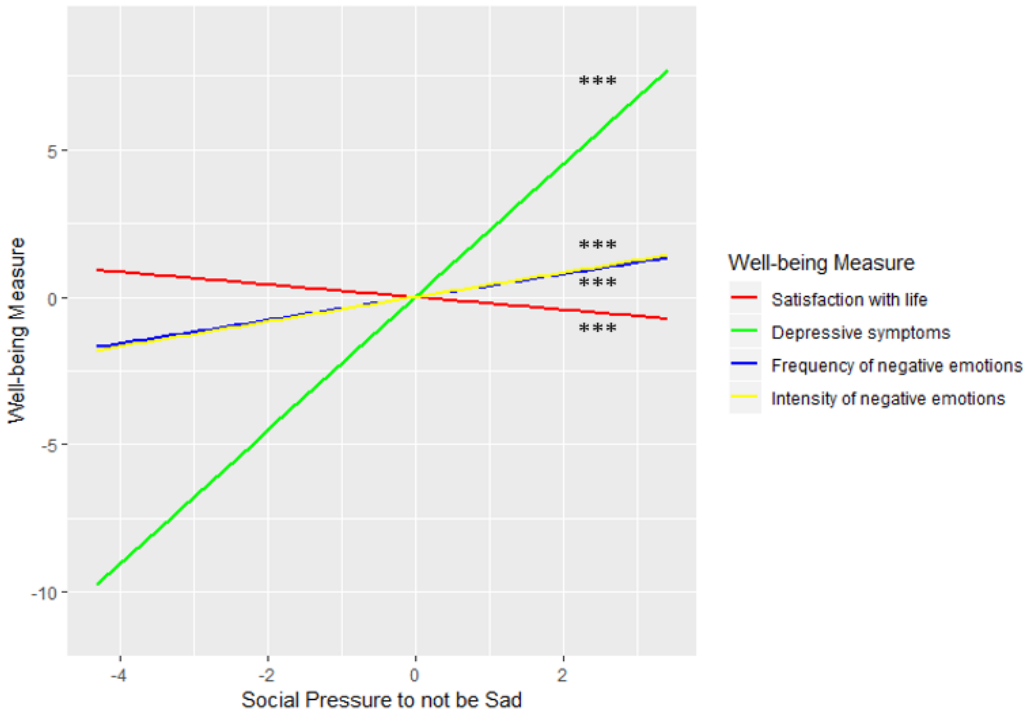

Figure 6. Simple regression models per well-being measure at the individual level, with social pressure to not be sad as the predictor and well-being as the criterion.

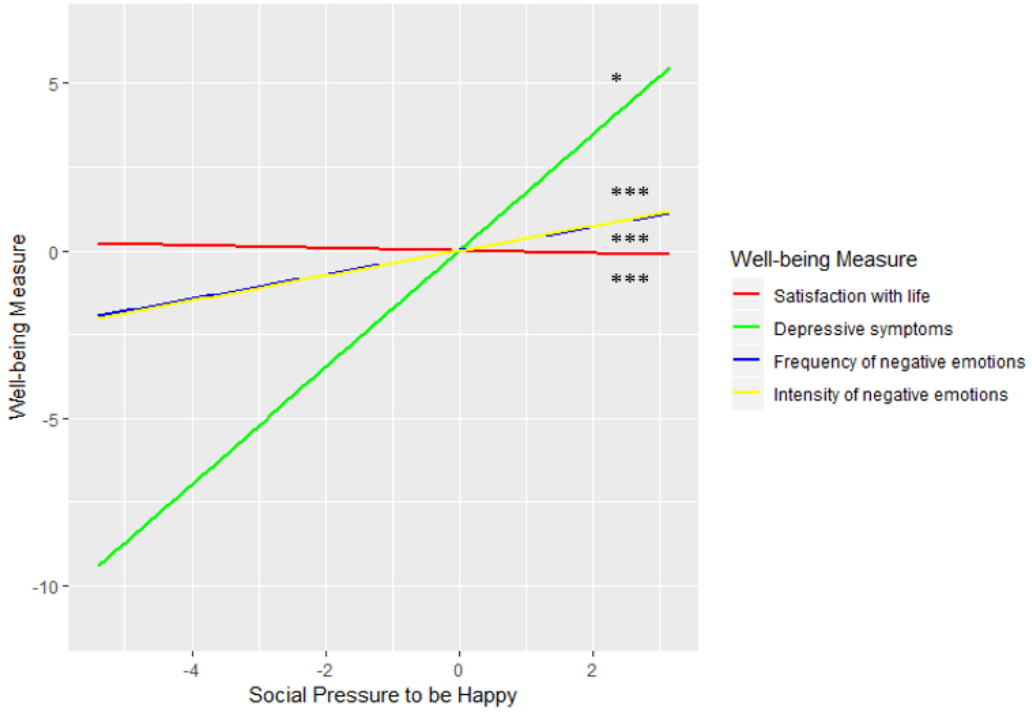

Figure 7. Simple regression models per well-being measure at the individual level, with social pressure to be happy as the predictor and well-being as the criterion.

3.4.2 Country level. The results for the country-level replication were mostly not in line with our hypotheses. Simple linear regression models indicated that social pressure to not be sad was not significantly associated with decreased satisfaction with life (β = 0.17, *SE* =0.15, *t*(16) = 1.09, *p* = 0.29, R^2 = 0.01), increased depressive symptoms (β = -0.01, *SE* = 2.26, *t*(16) = -0.01, *p* = 1.00, R^2 = -0.06), increased frequency of negative emotions (β = 0.12, *SE* = 0.29, *t*(16) = 0.40, *p* = 0.70, R^2 = -0.05), increased intensity of negative emotions (β = 0.04, *SE* = 0.25, *t*(16) = 0.15, *p* = 0.89, R^2 = -0.06), increased national depression prevalence (β = 0.01, *SE* = 0.00, *t*(16) = 1.99, *p* = 0.06, R^2 = 0.15), nor increased suicide prevalence (β = -4.57, *SE* = 2.48, *t*(16) = -1.30, *p* = 0.13, R^2 = 0.04) (Figure 8). As hypothesized, social pressure to be happy was significantly associated with increased frequency of negative emotions (β = 0.66, *SE* = 0.31, *t*(16) = 2.12, *p* < 0.05, R^2 = 0.17), however when removing outlier Costa Rica, the relation was no longer significant (β = 0.46, *SE* = 0.33, *t*(15) = 1.42, *p* = 0.18, R^2 = 0.06). Furthermore, it was not significantly associated with decreased satisfaction with life (β = 0.18, *SE* = 0.18, *t*(16) = 0.98, *p* = 0.34, R^2 =- 0.00), increased depressive symptoms (β = -1.02, *SE* = 2.68, *t*(16) = -0.38, *p* = 0.71, R^2 = -0.05), increased intensity of negative emotions (β = 0.46, *SE* = 0.28, *t*(16) = 1.68, *p* = 0.11, R^2 = 0.10), increased national depression prevalence (β = 0.00, *SE* = 0.00, *t*(16) = 0.84, *p* = 0.42, R^2 = -0.02), and increased suicide prevalence (β = -4.58, *SE* = 2.88, *t*(16) = -1.59, *p* = 0.13, R^2 = 0.08) (Figure 9).

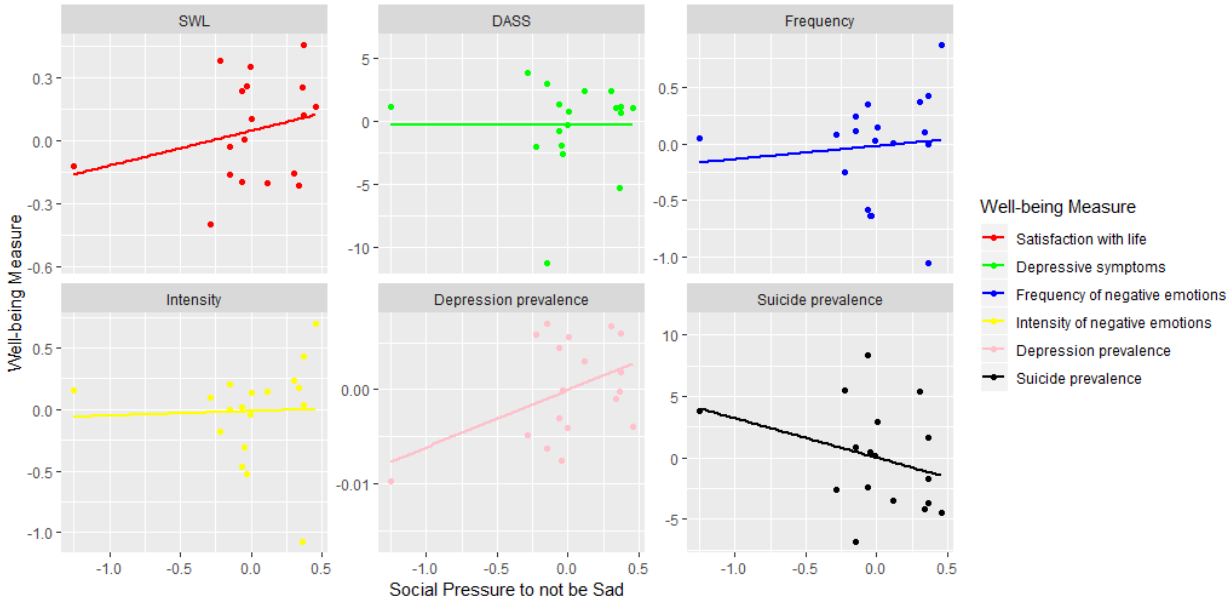

Figure 8. Simple regression models per well-being measure at the country level, with social pressure to not be sad as the predictor and well-being as the criterion.

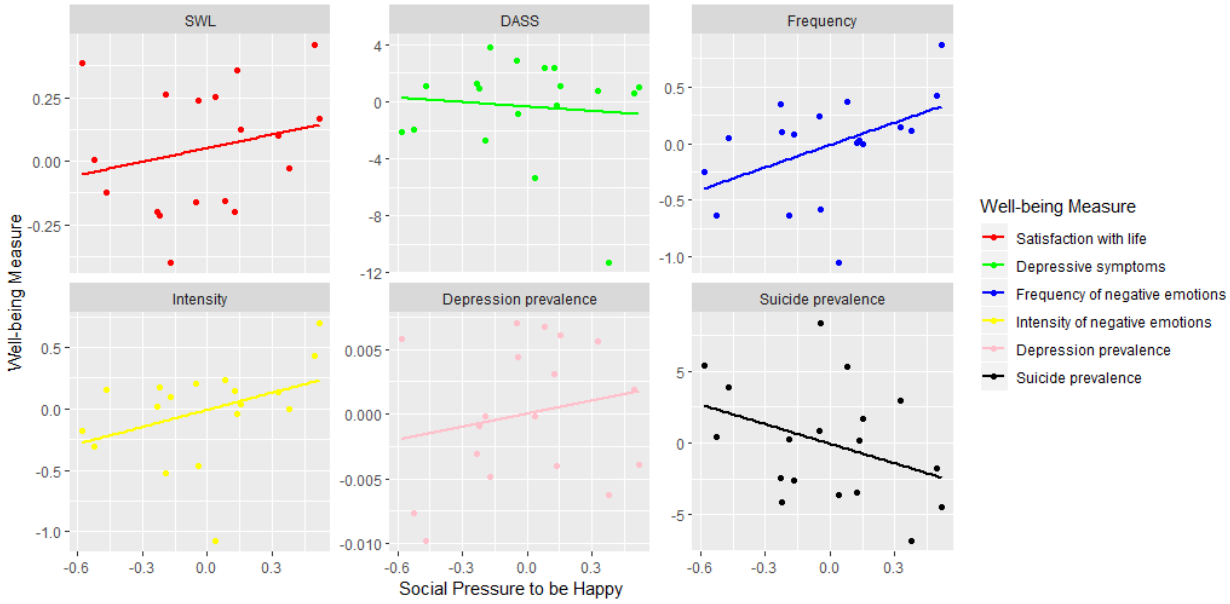

Figure 9. Simple regression models per well-being measure at the country level, with social pressure to be happy as the predictor and well-being as the criterion.

3.5 Aim 2: Correlates of Social Pressure to be Happy and Not Sad.

3.5.1 Individual-level correlates.

3.5.1.1 Gender. As hypothesized, simple regression models indicated that women experienced higher social pressure to not be sad (β = 0.14, *SE* = 0.05, *t*(2662) = 2.88, $p < 0.01$, $R^2 = 0.00$) and higher social pressure to be happy (β = 0.28, *SE* = 0.05, *t*(2665) = 5.21, $p < 0.001$, $R^2 = 0.01$) than men (Figure 10).

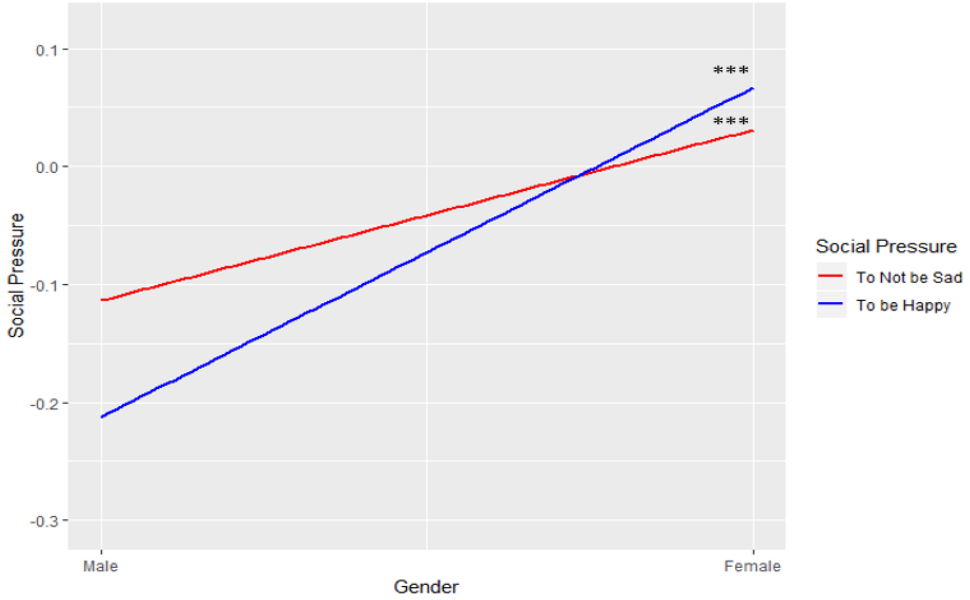

Figure 10. Simple regression models with gender as the predictor and social pressure as the criterion.

3.5.1.2 Religious denomination. We did not find any evidence for our hypotheses regarding religion. Individuals belonging to a Christian religious denomination did not experience higher levels of social pressure to not be sad (β = -0.15, *SE* = 0.14, *t*(783) = -1.07, *p* = 0.29, R^2 = 0.00) nor social pressure to be happy (β = -0.05, *SE* = 0.14, *t*(782) = -0.35, *p* = 0.72, R^2 = 0.00) than individuals belonging to a Buddhist religious denomination.

3.5.1.3 Hedonism. We did not find any evidence for a positive correlation between hedonism and social pressure. Individuals who value hedonism did not experience significantly higher levels of social pressure to not be sad (β = 0.00, *SE* = 0.01, *t*(2688) = -0.20, *p* = 0.84, R^2 = 0.00) nor social pressure to be happy (β = 0.02, *SE* = 0.01, *t*(2690) = 1.71, *p* = 0.09, R^2 = 0.00).

3.5.2 Country-level correlates.

3.5.2.1 Individualism. No evidence was found for our hypotheses regarding individualism and social pressure. Simple linear regression models indicated that social pressure to not be sad was not significantly correlated with individualism (β = 0.00, *SE* = 0.00, *t*(16) = -0.57, *p* = 0.58, R^2 = -0.04). This was also the case for social pressure to be happy (β = 0.00, *SE* = 0.00, *t*(16) = -0.91, *p* = 0.38, R^2 = -0.01).

3.5.2.2 Self-expression. We did not find evidence for a positive association between self-expression and social pressure. Social pressure to not be sad was not significantly positively correlated with self-expression scores (β = 0.13, *SE* = 0.10, *t*(13) = 1.22, *p* = 0.25, R^2 = 0.03). Likewise, social pressure to be happy was not significantly associated with self-expression scores (β = 0.09, *SE* = 0.09, *t*(13) = 1.03, *p* = 0.32, R^2 = 0.00). However, when removing outlier Malaysia, the relation between social pressure to be happy and self-expression was significant (β = 0.21, *SE* = 0.08, *t*(12) = 2.59, $p < 0.05$, R^2 = 0.30).

3.5.2.3 Social media. As hypothesized, social media penetration was significantly positively correlated with social pressure to be happy (β = 0.02, *SE* = 0.01, *t*(16) = 2.77, $p < 0.05$, R^2 = 0.28). However, we did not find any evidence for a significant positive correlation between social pressure to not be sad and social media penetration (β = 0.01, *SE* = 0.01, *t*(16) = 1.24, *p* = 0.23, R^2 = 0.03) (Figure 11).

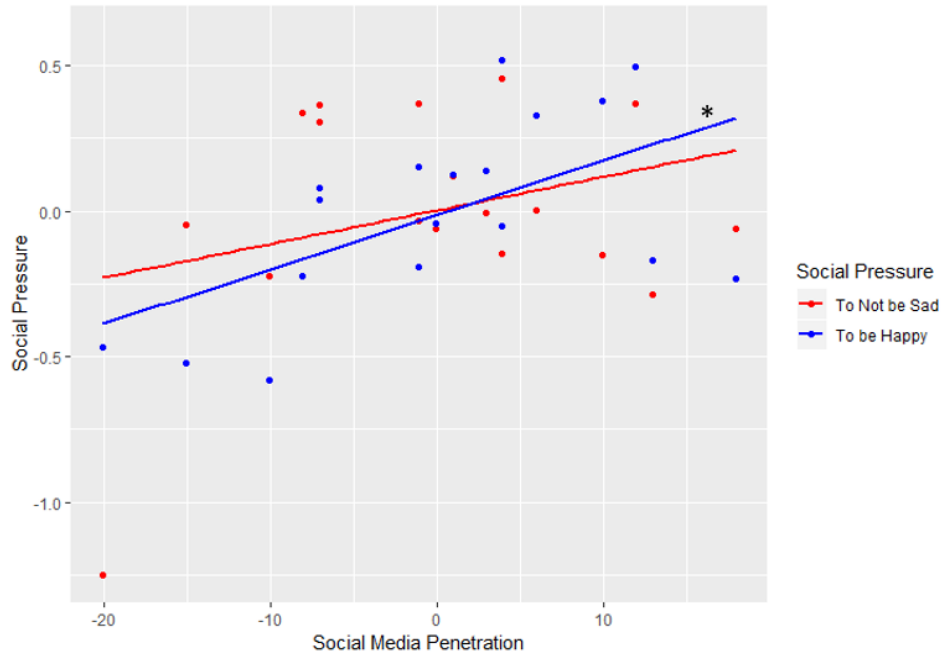

Figure 11. Simple regression models with social media penetration as the predictor and social pressure as the criterion.

3.6 Aim 3: Moderating Factors of the Relation between Social Pressure and Well-Being

3.6.1 Individual-level moderating factors.

3.6.1.1 Religiosity. We did not find any evidence for the moderating influence of religiosity on the relation between social pressure to not be sad and satisfaction with life (β = 0.01, *SE* = 0.01, *t*(2162) = 0.91, *p*=0.36, R^2 = 0.04), depressive symptoms (β = -0.14, *SE* = 0.10, *t*(2159) = -1.47, *p* = 0.14, R^2 = 0.06), frequency of negative emotions (β = 0.00, *SE* = 0.02, *t*(2168) = -0.28, *p* = 0.78, R^2 = 0.06), or intensity of negative emotions (β = -0.02, *SE* = 0.02, *t*(2166) = -0.89, *p* = 0.37, R^2 = 0.06). Likewise, we did not find evidence for the moderating influence of religiosity on the relation between social pressure to be happy and satisfaction with life (β = -0.01, *SE* = 0.01, *t*(2164) = -1.08, *p* = 0.28, R^2 = 0.01), depressive symptoms (β = 0.05, *SE* = 0.09, *t*(2161) = 0.61, *p* = 0.54, R^2 = 0.04), frequency of negative emotions (β = 0.01, *SE* = 0.02, *t*(2169) = 0.57, *p* = 0.57, R^2 = 0.06), or intensity of negative emotions (β = 0.01, *SE* = 0.02, *t*(2167) = 0.42, *p* = 0.68, R^2 = 0.06).

3.6.2 Country-level moderating factors.

3.6.2.1 Individualism. No evidence was found for the moderating influence of individualism on the relation between social pressure to not be sad and satisfaction with life (β = 0.00, *SE* = 0.00, *t*(2796) = -0.33, *p* = 0.75, R^2 = 0.04), depressive symptoms (β =0.01, *SE* = 0.01, *t*(2777) = 1.13, *p* = 0.26, R^2 = 0.06), frequency of negative emotions (β = 0.00, *SE* = 0.00, *t*(2783) = 0.05, *p* = 0.96, R^2 = 0.06), intensity of negative emotions (β = 0.00, *SE* = 0.00, *t*(2779) = -0.01, *p* = 1.00, R^2 = 0.06), national depression

prevalence percentages (β = 0.00, *SE* = 0.00, *t*(14) = -0.76, *p* = 0.46, R^2 = 0.32) and national suicide prevalence (β = -0.16, *SE* = 0.14, *t*(14) = -1.14, *p* = 0.28, R^2 = 0.16).

With regards to social pressure to be happy, we found no evidence for the moderating influence of individualism on the relation between social pressure be happy and satisfaction with life (β = 0.00, *SE* = 0.00, *t*(2800) = 0.41, *p* = 0.68, R^2 = 0.00), depressive symptoms (β = 0.00, *SE* = 0.01, *t*(2781) = 0.43, *p* = 0.67, R^2 = 0.04), frequency of negative emotions (β = 0.00, *SE* = 0.00, *t*(2785) = -0.27, *p* = 0.79, R^2 = 0.06), intensity of negative emotions (β = 0.00, *SE* = 0.00, *t*(2781) = 0.09, *p* = 0.93, R^2 = 0.06), national depression prevalence percentages (β = 0.00, *SE* = 0.00, *t*(14) = 0.21, *p* = 0.84, R^2 = 0.09), and national suicide prevalence (β = 0.01, *SE* = 0.14, *t*(14) = 0.10, *p* = 0.92, R^2 = 0.11).

3.6.2.2 Self-expression. No evidence was found for the moderating influence of survival/self-expression on the relation between social pressure to not be sad and satisfaction with life (β = -0.02, *SE* = 0.02, *t*(2311) = -0.75, *p* = 0.46, R^2 = 0.03), depressive symptoms (β = 0.20, *SE* = 0.19, *t*(2294) = 1.07, *p* = 0.28, R^2 = 0.06), frequency of negative emotions (β = 0.03, *SE* = 0.03, *t*(2300) = 1.07, *p* = 0.28, R^2 = 0.06), intensity of negative emotions (β = 0.05, *SE* = 0.03, *t*(2296) = 1.46, *p* = 0.15, R^2 = 0.06), national depression prevalence percentages (β = 0.00, *SE* = 0.01, *t*(11) = -0.84, *p* = 0.42, R^2 = 0.41), and national suicide prevalence (β = -0.83, *SE* = 4.75, *t*(11) = -0.18, *p* = 0.86, R^2 = 0.17).

Likewise, we found no evidence for the moderating influence of survival/self-expression on the relation between social pressure be happy and satisfaction with life (β = -0.03, *SE* = 0.02, *t*(2316) = -1.54, *p* = 0.13, R^2 = 0.00), depressive symptoms (β = 0.09, *SE* = 0.17, *t*(2299) = 0.51, *p* = 0.61, R^2 = 0.04), frequency of negative emotions (β = 0.01, *SE* = 0.03, *t*(2303) = 0.22, *p* = 0.82, R^2 = 0.06), intensity of negative emotions (β = 0.03, *SE* = 0.03, *t*(2299) = 0.91, *p* = 0.36, R^2 = 0.05), national depression prevalence percentages (β = 0.00, *SE* = 0.00, *t*(11) = 0.19, *p* = 0.85, R^2 = 0.27), and national suicide prevalence (β = 3.32, *SE* = 3.24, *t*(11) = 1.03, *p* = 0.33, R^2 = 0.28).

3.7 Results of exploratory analyses.

As with pre-registered models, informal graphical tests and the R package Global Validation of Linear Model Assumptions (glvma; Pena & Slate, 2006) were used to test all six crucial assumptions of simple and multiple regression models except for independence. Assumptions for t-tests were also checked.

3.7.1 Social pressure to be happy vs. social pressure to not be sad. Participants experienced significantly higher levels of social pressure to be happy (*M*=6.08, *SD*=1.22) than social pressure to not be sad (*M*=5.64, *SD*=1.16) according to Welch's t-test, *t*(5608.2) = 13.73, *p* < .001, *d* = 0.38.

3.7.2 Gender.

3.7.2.1 Gender and frequency and intensity of negative emotions. Simple regression models indicated that women experienced higher frequency (β =0.45, *SE* = 0.08, *t*(2669) = 5.81, $p < 0.001$, R^2 = 0.01) and intensity of negative emotions (β = 0.45, *SE* = 0.08, *t*(2667) = 5.46, $p < 0.001$, R^2 = 0.01) than men.

3.7.2.2 Gender as a moderating factor of the relation between social pressure and well-being. We found evidence for the moderating influence of gender on the relation between social pressure to not be sad and satisfaction with life (β = -0.14, *SE* = 0.05, *t*(2654) = -2.61, $p < 0.01$, R^2 = 0.04), depressive symptoms (β = 1.07, *SE* = 0.41, *t*(2651) = 2.59, $p < 0.01$, R^2 = 0.07), and frequency of negative emotions (β = 0.16, *SE* = 0.07, *t*(2660) = 2.26, $p < 0.05$, R^2 = 0.08). We did not find evidence for the moderating influence of gender on the relation between social pressure to not be sad and intensity of negative emotions (β = 0.11, *SE* = 0.08, *t*(2658) = 1.49, $p = 0.14$, R^2 = 0.08) (Figure 12).

We also found evidence for the moderating influence of gender on the relation between social pressure to be happy and satisfaction with life (β = -0.20, *SE* = 0.05, *t*(2657) = -4.28, $p < 0.001$, R^2 = 0.01), depressive symptoms (β = 1.57, *SE* = 0.37, *t*(2654) = 4.26, $p < 0.001$, R^2 = 0.05), frequency of negative emotions (β = 0.18, *SE* = 0.06, *t*(2662) = 2.82, $p < 0.01$, R^2 = 0.07), and intensity of negative emotions (β = 0.16, *SE* = 0.07, *t*(2660) = 2.40, $p < 0.05$, R^2 = 0.07) (Figure 13).

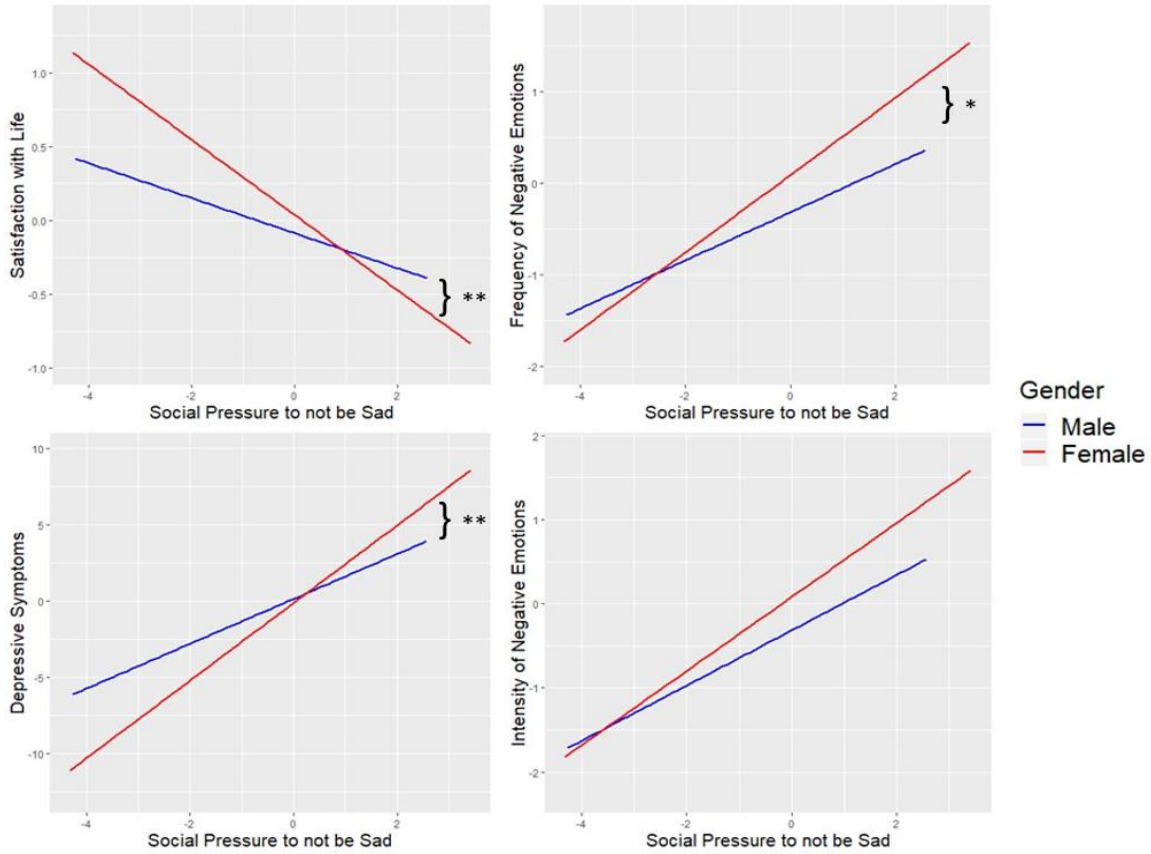

Figure 12. The moderating influence of gender on the relation between social pressure to not be sad and well-being.

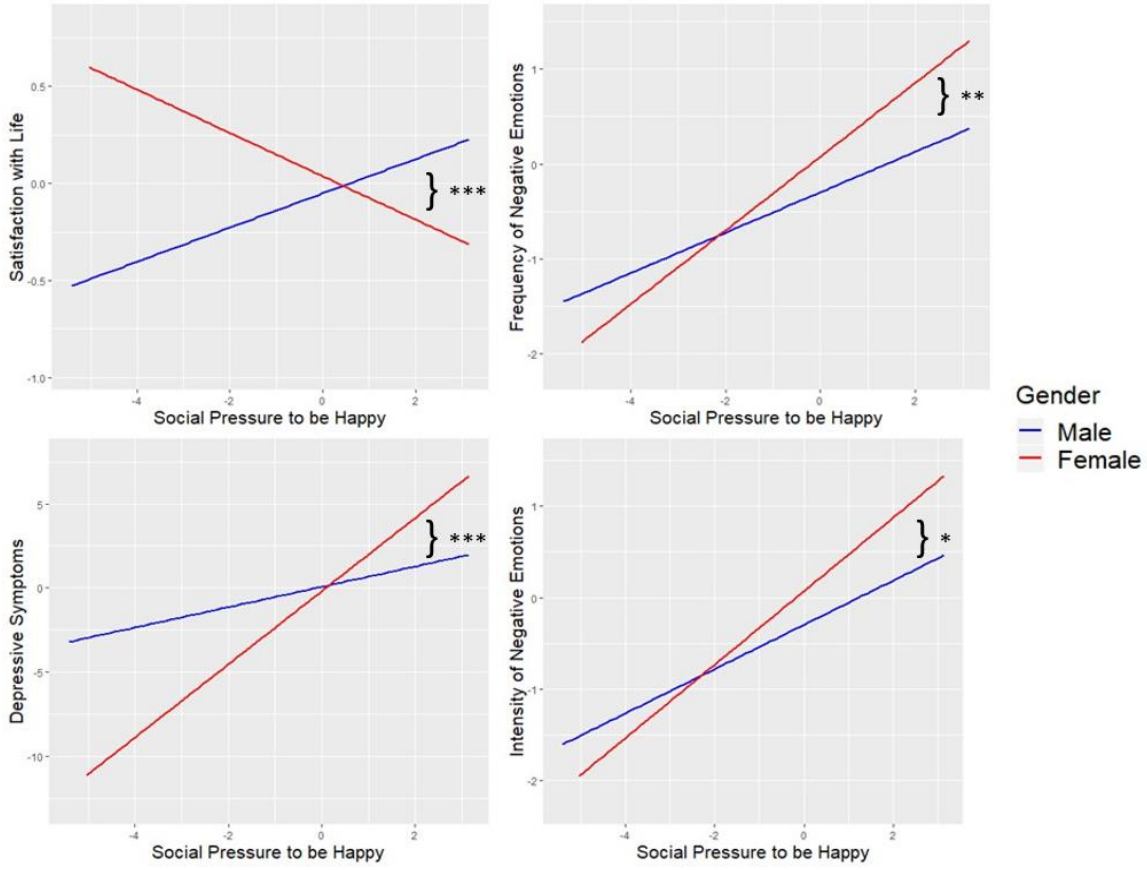

Figure 13. The moderating influence of gender on the relation between social pressure to be happy and well-being.

3.7.3 Religion.

3.7.3.1 Practicing a religion as a correlate of social pressure. There were no significant associations between practicing a religion and social pressure to not be sad (β = -0.02, *SE* = 0.04, *t*(2814) = -0.49, *p* = 0.62, R^2 = 0.00) nor social pressure to be happy (β = 0.07, *SE* = 0.05, *t*(2811) = 1.41, *p* = 0.16, R^2 = 0.00).

3.7.3.2 The relation between practicing a religion and well-being. Simple regression models indicated that practicing a religion predicts increased satisfaction with life (β = 0.16, *SE* = 0.05, *t*(2808) = 3.33, *p* < 0.001, R^2 = 0.00) across all individuals. However, we found no evidence of an association between practicing a religion and depressive symptoms (β = -0.62, *SE* = 0.39, *t*(2789) = -1.60, *p* = 0.11, R^2 = 0.00), frequency of negative emotions (β = -0.09, *SE* = 0.07, *t*(2793) = -1.31, *p* = 0.19, R^2 = 0.00), and intensity of negative emotions (β = -0.07, *SE* = 0.07, *t*(2789) = -1.03, *p* = 0.30, R^2 = 0.00).

3.7.3.3 Practicing a religion as a moderating factor of the relation between social pressure and well-being. We found evidence for the moderating influence of practicing a religion on the relation between social pressure to not be sad and satisfaction with life (β = -0.10, *SE* = 0.04, *t*(2796) = -2.35, *p* < 0.05, R^2 = 0.04). However, we did not find evidence for the moderating influence of practicing a religion

on the relation between social pressure to not be sad and depressive symptoms (β = -0.20, *SE* = 0.35, *t*(2777) = -0.59, *p* = 0.56, R^2 = 0.06), frequency of negative emotions (β = -0.01, *SE* = 0.06, *t*(2783) = -0.24, *p* = 0.81, R^2 = 0.06), and intensity of negative emotions (β = -0.03, *SE* = 0.06, *t*(2779) = -0.46, *p* = 0.65, R^2 = 0.06).

We also found evidence for the moderating influence of practicing a religion on the relation between social pressure to be happy and satisfaction with life (β = -0.15, *SE* = 0.04, *t*(2800) = -3.86, *p* < 0.001, R^2 = 0.01). However, we did not find evidence for the moderating influence of practicing a religion on the relation between social pressure to be happy and depressive symptoms (β = 0.38, *SE* = 0.32, *t*(2781) = 1.18, *p* = 0.24, R^2 = 0.04), frequency of negative emotions (β = 0.09, *SE* = 0.05, *t*(2785) = 1.60, *p* = 0.11, R^2 = 0.06), and intensity of negative emotions (β = 0.05, *SE* = 0.06, *t*(2781) = 0.91, *p* = 0.36, R^2 = 0.06).

3.7.4 Hedonism.

3.7.4.1 Hedonism and well-being. Simple regression models indicated that valuing hedonism predicts increased frequency (β = 0.03, *SE* = 0.02, *t*(2695) = 2.03, *p* < 0.05, R^2 = 0.00) and intensity of negative emotions (β = 0.04, *SE* = 0.02, *t*(2693) = 2.23, *p* < 0.05, R^2 = 0.00) across all individuals. However, we found no evidence for an association between hedonism and satisfaction with life (β = -0.01, *SE* = 0.01, *t*(2690) = -0.59, *p* = 0.56, R^2 = 0.00) and depressive symptoms (β = 0.09, *SE* = 0.10, *t*(2687) = 0.92, *p* = 0.36, R^2 = 0.00).

3.7.4.2 Hedonism and well-being at the country level. Simple regression models indicated that country-level averages of hedonism predict increased depressive symptoms (β = 1.98, *SE* = 0.61, *t*(16) = 3.22, *p* < 0.01, R^2 = 0.36) and increased national depression rates (β = 0.00, *SE* = 0.00, *t*(16) = 2.20, *p* < 0.05, R^2 = 0.18). However, when removing outlier Malaysia, no evidence of hedonism increasing depressive symptoms was found (β = 0.42, *SE* = 0.75, *t*(15) = 0.56, *p* = 0.58, R^2 = -0.04). Furthermore, we found no evidence for an association between country-level averages of hedonism and country-level averages of satisfaction with life (β = 0.01, *SE* = 0.05, *t*(16) = 0.15, *p* = 0.88, R^2 = -0.06), frequency of negative emotions (β = -0.02, *SE* = 0.10, *t*(16) = -0.19, *p* = 0.85, R^2 = -0.06), intensity of negative emotions (β = -0.03, *SE* = 0.09, *t*(16) = -0.33, *p* = 0.75, R^2 = -0.06), and suicide rates (β = 1.65, *SE* = 0.81, *t*(16) = 2.04, *p* = 0.06, R^2 = 0.16).

3.7.4.3 Hedonism and social pressure at the country-level. We found no evidence for an association between hedonism and social pressure to not be sad (β = 0.05, *SE* = 0.09, *t*(16) = 0.63, *p* = 0.54, R^2 = -0.04) nor social pressure to be happy (β = -0.01, *SE* = 0.07, *t*(16) = -0.13, *p* = 0.90, R^2 = -0.06) at the country level.

3.7.5 Religiosity and well-being. Simple regression models indicated that religiosity predicts increased satisfaction with life (β = 0.06, *SE* = 0.01, *t*(2172) = 3.99, *p* < 0.001, R^2 = 0.01) across all

individuals. However, we found no evidence of an association between religiosity and depressive symptoms (β = -0.10, SE = 0.11, t(2169) = -0.91, p = 0.36, R^2 = 0.00), frequency of negative emotions (β = 0.01, SE = 0.02, t(2177) = 0.55, p = 0.58, R^2 = 0.00), and intensity of negative emotions (β = 0.03, SE = 0.02, t(2175) = 1.29, p = 0.20, R^2 = 0.00).

3.7.6 Sample individualism and self-expression. Our sample averages of individualism (M = 61.40, SD = 26.49) and self-expression (M = 1.08, SD = 1.01) were significantly greater than the respective scale mean according to Welch's t-test (individualism: t(2927) = 23.28, p < .001, d = 0.43; self-expression: t(2435) = 52.66, p < .001, d = 1.07).

4. Discussion

4.1 Aim I: The Relationship between Social Pressure to be Happy and not Sad and Well-being: an Individual and Country-Level Replication

Our first pre-registered aim was to replicate previous findings that social pressure to not feel negative emotions is associated with lower well-being and to extend these findings by exploring the relation between social pressure to be happy and well-being. This was done at an individual and country level. In our individual-level replication we demonstrated that both social pressure to feel happy and social pressure to not feel sad were associated with reduced satisfaction with life, increased depressive symptoms, and increased frequency and intensity of negative emotions, replicating previous results (Bastian et al., 2012). Our country-level replication, however, only showed a positive association between social pressure to be happy and frequency of negative emotions, and no significant associations between social pressure to be happy and not sad and any of the other well-being variables.

4.1.1 Replication at the individual level. Our findings at the individual-level provide further evidence for the important role social expectancies play in personal well-being. Across 18 nations, the social expectation to not feel negative emotions was related to reduced well-being, which is consistent with previous work (Bastian et al., 2012, 2014; Dejonckheere et al., 2017). Our findings extend previous research by showing that the same is true for social pressure to be happy. Hence, it is not only the social expectation to not feel negative emotions that relates to reduced well-being, but also the expectation to mostly feel positive emotions. Additionally, our sample experienced significantly more social pressure to be happy than social pressure to not be sad, suggesting that social pressure to be happy may be more prominent and should be researched further.

If complemented with experimental lab studies, our findings may shed light on the negative consequences of promoting positive emotions and disapproving negative emotions. The mechanism by which disapproving negative emotions compromises well-being is well-documented by Bastian et al. (2012): the social expectancy to never feel bad creates unrealistic expectations about one's emotional

experience leading to maladaptive coping strategies when negative emotions do arise (e.g. negative self-reflection). However, while the mechanism by which the social expectation to feel positive emotions leads to reduced well-being is presumably similar to that of social expectation to not feel negative emotions, it has, to the best of our knowledge, not yet been studied and could be an interesting topic for future research.

4.1.2 Replication at the country level. Our results for the country-level replication provide evidence for the positive relation between social pressure to be happy and frequency of negative emotions, but not for the relation between social pressure and other well-being variables. Although the associations did not reach significance, social pressure to not be sad was positively related to frequency and intensity of negative emotions and depression prevalence, and social pressure to be happy was associated with increased intensity of negative emotions and increased depression prevalence. The lack of significant associations may be attributed to the small sample of countries we had in our analyses (N = 18). Social pressure to be happy and increased frequency of negative emotions was the only significant association at the country level, and, considering the risk of Type I errors, should be interpreted with caution. However, this finding as well as the direction of the non-significant associations, point to the importance of conducting further research on social pressure to be happy and its impact on well-being. These findings could also serve as an initial indication that although they are highly correlated (see Table 4), social pressure to be happy and social pressure to not be sad are separate constructs as they are differentially associated with well-being.

Additionally, it would be interesting if future research were to look into the associations of social pressure to not be sad and social pressure to be happy and its relation to well-being in each country separately. This may reveal interesting country-specific associations and patterns. For example, though it did not affect our findings, Poland was a visible and statistical outlier, and has the lowest social pressure to not be sad of all countries by a full scale point. This is in line with research stating that in Poland the norm is to be unhappy, or at least express negative emotions (Wojciszke, 2004). Based on this differing social norm, the associations and processes connecting social expectancies to well-being may differ considerably in Poland. Furthermore, there may be additional country-specific norms or processes at play in other countries that have not been taken into account here, as this exceeds the scope of the current study. This points to the importance of conducting country-specific research on social pressure to be happy and social pressure to not be sad.

At the country level, we were also interested in exploring associations between social pressure and country-wide measures of well-being (i.e. national depression and suicide prevalence). Although regression models did not yield significant associations between these variables, Pearson's correlation coefficients indicated a medium positive correlation between MDD prevalence and social pressure to not

feel negative emotions (Table 4), which is consistent with previous work showing that social pressure to not feel negative emotions predicts increases in depressive symptoms in daily life (Dejonckheere et al., 2017).

Regarding suicide rates, we were surprised to find medium negative correlations between both social pressure to be happy and social pressure to not be sad and national suicide prevalence (Table 4). However, studies on social norms have found that individuals are sensitive to the expectations around them and unlikely to act against the norm (Perkins & Berkowitz, 1986). Therefore, depressed individuals contemplating suicide may not act on it, as doing so would be against the perceived social norm. Social pressure to be happy and social pressure to not be sad while decreasing well-being may also decrease suicide prevalence. Research has used this to their advantage and found positive effects of using social norms to motivate college students to seek counseling and consequently reduce stress, depression and suicide rates of students (Silk, Perrault, Nazione, Pace, & Collins-Eaglin, 2017).

4.1.3 Implications. The implications of the above-mentioned findings are that in order to enhance well-being, a more balanced view on emotions should be promoted in both the cultural and psychological arenas. Culturally, campaigns that de-stigmatize negative emotions and mental health disorders could be promoted. In the psychological arena, interventions that teach a non-judgmental and accepting attitude towards positive and negative emotions (e.g. mindfulness-based interventions; Crane, Brewer, Feldman, Santorelli, & Williams, 2017) could be further endorsed.

4.2 Aim II: Correlates of Social Pressure to be Happy and not Sad

Our second pre-registered aim was to explore possible correlates of social pressure to be happy and not sad at an individual and country level. Our individual-level analyses showed that, as expected, women experienced higher levels of social pressure to be happy and not sad than men. However, neither religion nor hedonism was significantly correlated with social pressure to be happy and not sad. Our country-level analyses demonstrated that social media penetration was positively correlated with social pressure to be happy. Moreover, survival/self-expression was positively correlated with social pressure to not be sad when the outlier Malaysia was removed from the analysis. Conversely, there were no significant associations between individualism and social pressure to be happy and not sad.

4.2.1 Individual-level correlates. Our findings at the individual-level provide evidence for gender differences in the experience of social pressure to be happy and social pressure to not be sad. Being female is related to increased social expectancies to feel positive emotions and not feel negative emotions. This coincides with previous research showing that women experience high levels of social pressure in a variety of domains such as appearance (Helfert & Warschburger, 2013), quitting smoking (Royce et al., 1997), and time pressure (Mattingly & Sayer, 2006). We also found that being female is significantly

associated with increased frequency and intensity of negative emotions, suggesting that women may not only be more vulnerable to the social pressure to feel positive emotions and not feel negative emotions, but also to its potential negative effects. In fact, our exploratory analyses show that gender moderates the relation between social pressure to be happy and not sad and well-being (further discussed below). We speculate that one of the reasons why women are more affected by social pressure to be happy and not sad in comparison to men, is because of women's increased tendency to ruminate (Johnson & Whisman, 2013). Increased rumination in women may exacerbate negative self-reflection, the mediating mechanism of the relation between social pressure to not be sad and reduced well-being (Bastian et al., 2012). This would be an interesting topic for further research.

Our results do not provide evidence for an association between religious denomination and social expectancies to feel happy and not sad. Christian individuals do not experience more social pressure to be happy and not sad than Buddhist individuals. Moreover, our exploratory analyses revealed that religious individuals in general do not experience higher levels of social pressure to be happy and not sad than non-religious individuals. They do, however, experience increased satisfaction with life, which is in line with previous findings (Dorahy et al., 1998; Lim & Putnam, 2010; Sinnewe, Kortt, & Dollery, 2015). These results suggest that although both culture (Bastian et al., 2012) and religion (Kim-Prieto & Diener, 2009) inform people's emotional experience, they do so independently. Thus, social expectancies for experiencing emotions may be distinct from religious expectancies, but further research is needed to elucidate the distinction between these two constructs.

Our findings at the individual-level provide no evidence for an association between hedonism and social pressure to be happy and not sad. In other words, contrary to our expectations, individuals who value hedonism do not experience higher levels of social pressure to be happy and not sad. Exploratory models indicated that this is also the case at the country-level. Our reasoning was that valuing hedonism could be compared to the personal expectancy to feel positive emotions and not feel negative emotions, which would exacerbate an individual's social pressure to be happy and not sad. This was not observed in our sample, suggesting that personal expectancies may not necessarily aggravate or diminish social expectancies. This supports previous research that social expectancies predict reduced well-being independent of personal expectancies (Bastian et al., 2012). Hedonism does not aggravate social pressure but according to our exploratory analyses it does predict increased frequency and intensity of negative emotions at the individual level as well as increased national depression rates at the country level. Thus, our findings indicate that hedonism is not associated with levels of social pressure, but it is associated with reduced well-being.

4.2.2. Country-level correlates. At the country-level, we found support for our hypothesis that social media penetration, defined as the percentage of monthly active accounts on the top social networks,

is positively associated with social pressure to be happy. As reviewed earlier, people tend to present the most ideal, happy, and positive version of themselves on social media platforms. This positivity bias online reflects offline social norms to feel positive emotions and further amplifies them. Our findings support the idea that people in countries with high social media use experience heightened social expectancies to feel happy possibly because the social pressure is experienced both offline and online. Social media may exacerbate social pressure to be happy because it continuously exposes us to others' happy lives thereby serving as a constant reminder of the social norm to be happy and of the gap between what society expects us to feel and what we actually feel. As adolescents are the most frequent users of social media (Allen, Ryan, Gray, McInerney, & Waters, 2014), they may be particularly susceptible to the social pressure to be happy and negative consequences thereof. Therefore, social media classes or seminars in schools, educating young adolescents on the positivity bias on social media (among other potential problems of social media) may be advisable.

Unexpectedly, we found no evidence for the association between social pressure to not feel sad and social media penetration at the country-level. The fact that social pressure to be happy is associated with increased social media use but social pressure to not be sad is not, provides further evidence for the fact that social pressure to be happy and social pressure to not be sad are separate constructs and should be researched as such. A potential reason why social pressure to not be sad is not associated with social media use is because sharing negative emotions is not frowned upon on social media platforms. In fact, an increasing number of people turn to social media to seek support for their mental health issues (Naslund, Aschbrenner, Marsch, & Bartels, 2016). This is especially true for teens and young adults, who are reluctant to seek in-person mental healthcare and are more likely to turn to social networking sites for advice (Rickwood, Mazzer, & Telford, 2015; Ridout & Campbell, 2018). According to a recent survey, 90% of teens and young adults with depressive symptoms seek help online (Fox, 2018). Those who resort to social media for mental health support report many benefits such as a sense of connectedness with peers who are facing similar problems, feelings of belonging, and a space to share their personal stories (Naslund et al., 2016). Considering the above-mentioned research, it seems that feeling and expressing negative emotions is not taboo in social media platforms and is even encouraged in certain social media circles. Therefore, in light of this information, it comes as no surprise that in our sample, which is mainly comprised of teens and young adults, there is no association between social pressure to not feel sad and social media use.

Our findings at the country-level provided no evidence for an association between the survival/self-expression dimension and social pressure to be happy and not sad. However, when Malaysia, the outlier in our analyses, was removed from the analysis, there was a significant association between social pressure to be happy and survival/self-expression. This was what we hypothesized to find because

previous research has shown that in self-expressive nations, life satisfaction is more strongly linked to positive emotional experiences than in survivalist nations (Kuppens et al., 2008). Thus, positive emotions are more valued in self-expressive countries making it more likely that the social expectancy to be happy is also more prominent, which is what our findings suggest. However, these results need to be interpreted with caution due to the small sample size (N = 14). The lack of association between the survival/self-expression dimension and social pressure to not be sad may be due to several reasons. The first is the limited sample of countries in our analyses. The second is that the association between the survival/self-expression dimension and the absence of negative emotions is not very clear. Previous studies emphasize the importance of avoiding negative emotions in individualistic countries (Kuppens et al., 2008), but to our knowledge, no such association has been established with self-expressive countries. If avoiding negative emotions is not an important social norm in self-expressive countries, then the association between social pressure to not be sad and self-expression is unlikely, but further research with a larger sample of countries is needed to investigate this.

At the country-level, we found no evidence for the association between social pressure to feel happy and not sad and the individualism/collectivism cultural dimension. We hypothesized that there would be a positive association between individualism and social pressure to be happy and not sad because previous research has shown that the effects of social expectancies are stronger in Western countries which tend be highly individualistic (Bastian et al., 2012). Moreover, previous studies have shown that individualistic countries tend to value happiness (Diener et al., 1995) and have a higher intolerance towards negative emotions in comparison to collectivistic countries (Kuppens et al., 2008). There are several possible reasons why the hypothesized association was not found. First of all, our analyses were limited by the low number of countries (N = 18). Secondly, most of the countries in our sample had high individualism scores (see more detailed discussion below in section 4.3.2) making it unlikely to detect differences between individualistic and collectivistic countries. We recommend running these analyses in a larger sample of countries that have more variation in individualism/collectivism scores.

4.3 Aim III: Moderating Factors of the Relation Between Social Pressure and Well-Being

Our final pre-registered aim was to explore potential moderators of the relation between social pressure and reduced well-being. Individual-level models found no evidence for the moderating influence of religiosity. Likewise, country-level models found no evidence for the moderating influence of individualism or survival/self-expression.

4.3.1. Individual-level moderating factors. As previous research has shown a robust association between religiosity and increased well-being through religion providing coping strategies and a supportive

community, we predicted that across all individuals religiosity would buffer the potential negative effects of social pressure to not be sad and social pressure to be happy. Our results did not reveal this moderation. However, exploratory simple regression models indicated that religiosity is associated with an increase in satisfaction with life, which is in line with previous research. Furthermore, exploratory models showed that practicing a religion acts as a moderator between social pressure and life satisfaction: satisfaction with life is less negatively affected by social pressure in religious individuals than in non-religious individuals. These exploratory models elucidate the relationship between religion, social pressure and well-being. Our findings suggest that practicing a religion may work as a buffer between social pressure and well-being, possibly by providing coping strategies to deal with the unwanted and socially unaccepted negative emotions and possibly by increasing the experience of positive emotions. The latter would be an interesting topic of further research because positive emotions have been found to mediate the relation between religiosity and well-being (Van Cappellen, Toth-Gauthier, Saroglou, & Fredrickson, 2016). Therefore, we speculate that individuals who practice a religion experience more positive emotions leading to a smaller gap between what they are socially expected to feel (i.e. happy) and what they actually feel. Nonetheless, our results also show that the strength of one's religious affiliation does not further affect the relationship between social pressure and well-being. It does however increase well-being directly.

Exploratory models revealed a further individual-level moderator of the relation between social pressure and well-being. The negative association of both social pressure to be happy and social pressure to not be sad on well-being was exacerbated for women across all measures except social pressure to not be sad and intensity of negative emotions. This suggests that women may be more vulnerable to the negative associations of social pressure to feel positive emotions and not feel negative emotions for the reasons discussed above (see section 4.2.1).

4.3.2. Country-level moderating factors. Country-level models investigated the cultural dimensions of individualism and self-expression as a moderator. Earlier studies have found the link between social expectancies and reduced well-being to be stronger in Western countries (Bastian et al., 2012). Furthermore, in individualistic countries and countries valuing self-expression, happiness is valued more highly, and whether one experiences positive or negative emotions has a stronger influence on well-being than in collectivistic and survivalist countries (Kuppens et al., 2008). Therefore, we surmised that a country's level of individualism and self-expression would act as a moderator between social pressure and well-being. Our findings however, did not reflect this.

There are various possible reasons for why we could not expand Bastian et al.'s findings (2012) that there is a stronger link between social expectancies and reduced well-being in Western countries to individualistic and self-expressionist countries. For one, while they are often used interchangeably, the

Western/Eastern divide is different from the individualistic or self-expression dimension. For example, Portugal, while being a Western country has a comparatively low individualism score. Therefore, country differences in social pressure could stem from aspects that are not captured in the dimensions of individualism or self-expression. Furthermore, we only have 18 countries in our sample that all have very high levels of both individualism and self-expression. The average of both measures across all countries is significantly higher than the scale midpoint. A bigger sample including more collectivistic and survivalist countries may be needed to uncover the moderating influence of individualism and self-expression on social pressure and well-being. Lastly, cross-cultural differences may simply be getting smaller due to the influence of globalization (Olivier, Thoenig, & Verdier, 2008; Pieterse, 2015). Due to the increased exchange of media, cuisine, music and goods, local cultures are eroded and converge towards the culture whose cultural capital is being imported. Therefore, the dimensions of individualism and self-expression, that are based on data collected in 2010 and between 1998 to 2012, may not represent the cultural differences of today adequately. Future research should include countries with more variance in individualism/self-expression and investigate whether cultural dimensions such as individualism and self-expression adequately capture country differences in an increasingly globalized world.

4.4. Summary of findings

In summary, at the individual level, social pressure to be happy and social pressure to not be sad were significantly associated with all measures of reduced well-being and positively associated with female gender (Figure 14). The relation between social pressure to be happy and social pressure to not be sad and reduced satisfaction with life, increased depressive symptoms, and increased frequency of negative emotions was moderated by female gender. The relation between social pressure to be happy and social pressure to not be sad and satisfaction with life was moderated by practicing a religion. Practicing a religion and religiosity were associated with increased satisfaction with life. Hedonism and female gender were associated with increased frequency and intensity of negative emotions.

On the country level, social pressure to be happy was significantly associated with increased frequency of negative emotions, social media, and self-expression (Figure 15). Country-level hedonism was associated with increased depression prevalence rates.

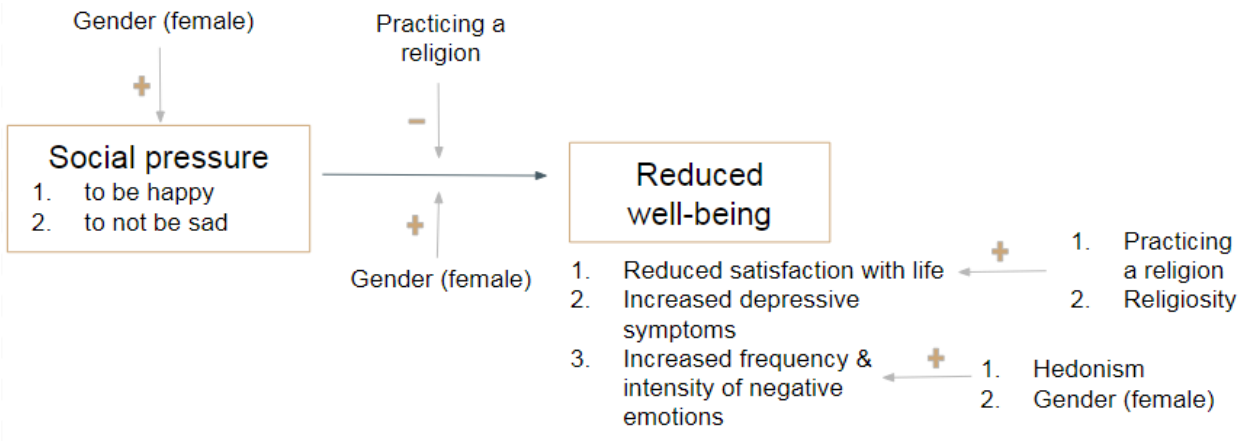

Figure 14: Individual-level model illustrating our significant confirmatory and exploratory findings.

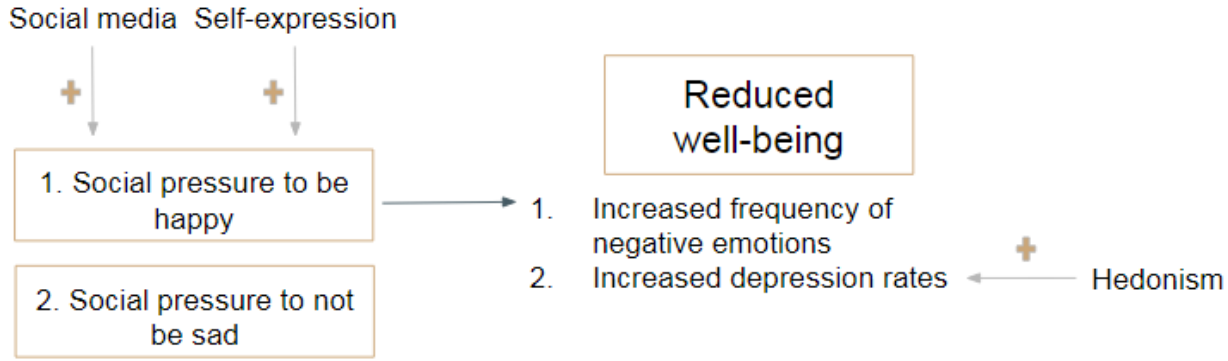

Figure 15: Country-level model illustrating our significant confirmatory and exploratory findings.

4.5 Limitations

While the aforementioned studies provide interesting findings, a limitation of the present work is our sample. First of all, due to time constraints on our thesis, only data from a subsample of the countries participating in our study was available, and therefore our number of countries is very small (N = 18). Secondly, our sample consists entirely of university students, most of them studying psychology. University students are a select demographic because they are more educated, younger, and often of a higher socio-economic status than the general population. Third, as is common with psychology students, more than two thirds of our sample is female. Fourth, our sample was drawn predominantly from Western, educated, industrialized, rich and democratic (WEIRD) populations. 15 out of our 18 countries are Western, according to the definition that Western countries are countries shaped by Western Christianity, that currently use the Latin alphabet and have high GDPs ("Western Countries 2019", 2018). Moreover, due to differing sample sizes between countries, 83% of the overall participants are Western, meaning that especially for individual-level analyses the Western individuals carry more weight. This limits the

generalizability and external validity of our study, as our sample is not representative of the world population and the underlying psychological processes could differ from our sample (Henrich, Heine & Norenzayan, 2010). Consequently, we recommend rerunning the analyses once the data from all 63 countries participating in this cross-cultural study is available.

The composition of our sample may have influenced certain analyses in particular. In Aim II of our individual models, we investigated whether Christian individuals experienced higher social pressure to be happy and not sad than Buddhist individuals. However, as Western countries are characterized by Christianity and have a rather low number of individuals practicing Buddhism, our sample is of predominantly Christian denomination and includes less than 100 Buddhists (N = 75). For this reason, we advise rerunning the analyses once data from more Eastern countries with higher percentages of practicing Buddhists are available, to limit effects of sample bias. Furthermore, younger individuals are likely to be less religious (Bengtson, Silverstein, Putney, & Harris, 2015). As our sample's mean age is M = 23.71 (SD = 8.03), it is likely to have impacted our analyses regarding practicing a religion and religiosity. Thus, it would be interesting to investigate the influence of religion on social pressure to be happy and not sad in an older sample.

An important limitation of the present study is that we did not control for multiple comparisons in our analyses. The Bonferroni method is often advised when conducting multiple tests or comparisons to reduce Type I errors. Our reasons for not conducting the Bonferroni correction are threefold: (1) the issues associated with the method, (2) the lack of consensus regarding what constitutes a population of tests, and (3) the hypothesis-driven approach of the present study. First, various studies discuss the problems associated with using the Bonferroni correction method. One of the main issues discussed is that decreasing Type I errors inevitably inflates Type II errors, thereby reducing the power to detect an important effect (Armstrong, 2014; Cohen, 1994; Perneger, 1998). Furthermore, some researchers advise against the use of the Bonferroni correction method as it "is at best unnecessary and at worst actually deleterious to sound statistical inference" (Perneger, 1998, p. 1236). Second, there are no agreed upon guidelines on what constitutes a population of tests (Armstrong, 2014). It is not clear whether the correction should be applied to all tests in a given study, all tests of the same hypotheses, or even to all tests on the same dataset performed by other researchers. Lastly, the literature suggests using the Bonferroni correction only when there are no pre-established hypotheses driving the research (Armstrong, 2014; Perneger, 1998). However, as evidenced by our pre-registration, hypotheses and tests were theory-driven and not data-driven; therefore the necessity of a Bonferroni correction can be contested. In summary, no correction for multiple comparisons was conducted but we argue that this is outweighed by our thorough descriptions of the present study's statistical approach and hypotheses, as well as our interpretation of patterns of findings rather than emphasizing singular p-values.

Another important observation is that our sample's mean of depressive symptoms is $M = 25.42$ ($SD = 10.50$), which according to the DASS severity ratings indicates severe distress. This could be seen as a limitation because our sample lacks a variety of depressive symptom scores. Additionally, the depression scale of the DASS merely captures low levels of positive affect and does not capture high levels of negative affect. It would be interesting for future research to include the stress subscale in addition to the depression subscale when studying social pressure and its relation to well-being, as the stress subscale captures high levels of negative affect.

Lastly, due to insufficient power, issues with singularity and low differences between countries, we had problems running our pre-registered analyses in R and changed our initial multilevel regression models to simple regression models (see 2.3.5). Nonetheless, our data is nested within countries and individuals within countries are likely to be more similar than individuals from different countries, even though our analyses show no considerable differences between countries. Hence, it would be interesting to rerun our pre-registered models in (1) a different statistical analysis program to see whether using multilevel models changes our findings, and (2) once data is collected in more countries. Increasing the number of countries would increase the power (30-30 rule) and could solve singularity issues, while taking into account the nested quality of our data.

5. Conclusion

To summarize, on an individual level we successfully replicated the finding that social pressure to not be sad as well as social pressure to be happy are related to a decrease in life satisfaction and an increase in depressive symptoms, frequency and intensity of negative emotions (Figure 16). This highlights the importance of social expectancies on personal well-being, and the negative consequences of promoting positive emotions and disapproving negative emotions. Furthermore, our results indicate that women are more vulnerable to the social pressure as well as negative consequences thereof. Not only do women experience higher social pressure to be happy and not sad, they also experience lower satisfaction with life, more depressive symptoms, and more frequency and intensity (only for social pressure to be happy) of negative emotions than men. Finally, exploratory models revealed that practicing a religion, but not the strength of the religious affiliation, buffers the potential negative effects of social pressure to not be sad and social pressure to be happy on life satisfaction. These results show how important social expectancies are for individual well-being, and how certain populations are differentially impacted by the negative consequences of it.

On a country level, social pressure to be happy was related to an increase in the frequency of negative emotions (Figure 17). Furthermore, social pressure to be happy was increased in countries that value self-expression and where social media penetration is high. This indicates, that in countries where

social media is prominent and self-expression is an important value, the importance placed on happiness is a lot higher, hence the social pressure to be happy is increased. This provides evidence that culture influences individuals' experience of emotions.

An important observation across all results is that different associations were found for social pressure to not be sad and social pressure to be happy. Overall, individuals experience higher social pressure to be happy than to not be sad, and social pressure to be happy is significantly related to more constructs. This indicates that they are separate constructs and should be treated as such in future research. While both social expectancies inform us about what we should feel, they do so differently and thus are differentially associated with our emotional experiences. Moreover, social pressure to be happy seems to have a bigger impact on individuals' lives than social pressure to not be sad, indicating that societal expectations to express positive emotions are more pronounced than societal expectations to not express negative emotions. As past research has mostly focused on the social expectancies for experiencing negative emotions, this points to the importance of future research investigating the social expectancies for experiencing positive emotions.

In conclusion, we've established that social pressure to feel happy and not sad is negatively related to the well-being of individuals, of women in particular, and that societal factors such as self-expression and social media use may feed into this social pressure, making individuals feel worse. We've also demonstrated that there are certain individual-level factors, such as practicing a religion, that may protect people from the potentially detrimental effects of social pressure to feel happy and not sad. Our findings underline the importance of studying social pressure at an individual and country level as social pressure arises in society but is related to the well-being of individuals.

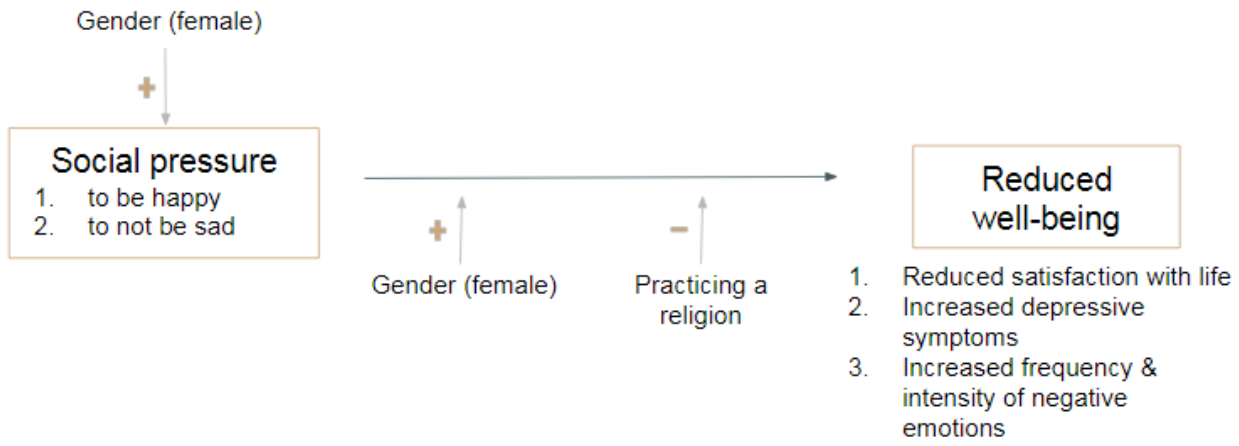

Figure 16: Individual level model illustrating our significant findings regarding social pressure. Social pressure to be happy and social pressure to not be sad were significantly associated with all measures of reduced well-being and positively associated with female gender. The relation between social pressure to be happy and social pressure to not be sad and reduced satisfaction with life, increased depressive symptoms, and increased frequency of negative emotions was moderated by female gender. The relation between social pressure to be happy and social pressure to not be sad and satisfaction with life was moderated by practicing a religion.

Figure 17: Country level model illustrating our significant findings regarding social pressure. Social pressure to be happy was significantly associated with increased frequency of negative emotions, social media, and self-expression.

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Appendices

Appendix A

Regression table: replication at the individual level

Table A: Replication at the individual level.

				CI_{95}, for β					
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2
SWL	Intercept	0.00	0.02	-0.04	0.05	0.01	2798	0.99	0.04
	SPsad	-0.21	0.02	-0.25	-0.17	-10.27		<0.001	
SWL	Intercept	0.00	0.02	-0.05	0.04	-0.05	2802	0.96	0.00
	SPhap	-0.04	0.02	-0.08	-0.02	-2.04		<0.05	
SWL (no outliers)	Intercept	0.00	0.02	-0.05	0.04	-0.07	2799	0.95	0.00
	SPhap	-0.04	0.02	-0.08	0.00	-2.01		<0.05	
DASS	Intercept	-0.01	0.18	-0.36	0.35	-0.04	2779	0.97	0.06
	SPsad	2.26	0.16	1.94	2.58	13.78		<0.001	
DASS	Intercept	0.00	0.18	-0.36	0.36	0.01	2783	0.99	0.04
	SPhap	1.74	0.15	1.44	2.04	11.33		<0.001	
DASS (no outliers)	Intercept	0.00	0.18	-0.36	0.36	-0.01	2782	0.99	0.04
	SPhap	1.74	0.15	1.44	2.04	11.32		<0.001	
FreqNeg	Intercept	0.00	0.03	-0.06	0.06	-0.01	2785	0.99	0.06
	SPsad	0.39	0.03	0.34	0.45	13.93		<0.001	
FreqNeg	Intercept	0.00	0.03	-0.06	0.06	0.02	2787	0.98	0.06
	SPhap	0.36	0.03	0.31	0.41	13.75		<0.001	
IntNeg	Intercept	0.00	0.03	-0.07	0.06	-0.02	2781	0.99	0.06
	SPsad	0.42	0.03	0.36	0.48	13.86		<0.001	
IntNeg	Intercept	0.00	0.03	-0.07	0.06	-0.03	2783	0.98	0.06
	SPhap	0.37	0.03	0.32	0.43	13.25		<0.001	
IntNeg (no outliers)	Intercept	0.00	0.03	-0.07	0.07	-0.01	2782	0.99	0.06
	SPhap	0.37	0.03	0.32	0.43	13.26		<0.001	

Note: SWL = Satisfaction with life, DASS = depression subscale from the DASS scale, FreqNeg = Frequency of negative emotions, IntNeg = Intensity of negative emotions, SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy.

Appendix B

Regression table: replication at the country level

Table B: Replication at the country level.

				CI_{95}, for β					
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2
SWL	Intercept	0.05	0.06	-0.07	0.17	0.84	16	0.41	0.01
	SPsad	0.17	0.15	-0.16	0.49	1.09		0.29	
SWL	Intercept	0.05	0.06	-0.07	0.17	0.88	16	0.39	0.00
	SPhap	0.18	0.18	-0.21	0.56	0.98		0.34	
SWL (no Chile, Estonia)	Intercept	0.01	0.05	-0.11	0.12	0.09	14	0.93	0.04
	SPhap	0.25	0.19	-0.16	0.66	1.31		0.21	
DASS	Intercept	-0.34	0.86	-2.16	1.48	-0.40	16	0.70	-0.06
	SPsad	-0.01	2.26	-4.81	4.78	-0.01		1.00	
DASS (no Poland)	Intercept	-0.58	0.95	-2.60	1.44	-0.61	15	0.55	-0.05
	SPsad	2.02	3.86	-6.22	10.25	0.52		0.61	
DASS	Intercept	-0.36	0.86	-2.17	1.46	-0.42	16	0.68	-0.05
	SPhap	-1.02	2.68	-6.71	4.66	-0.38		0.71	
DASS (no Estonia)	Intercept	-0.20	0.89	-2.11	1.71	-0.22	15	0.83	-0.04
	SPhap	-1.97	3.02	-8.40	4.46	-0.65		0.52	
FreqNeg	Intercept	-0.02	0.11	-0.26	0.22	-0.18	16	0.86	-0.05
	SPsad	0.12	0.29	-0.51	0.74	0.40		0.70	
FreqNeg (no Poland)	Intercept	-0.06	0.12	-0.32	0.20	-0.46	15	0.65	-0.02
	SPsad	0.43	0.50	-0.64	1.49	0.86		0.41	
FreqNeg	Intercept	-0.01	0.10	-0.22	0.20	-0.11	16	0.91	0.17
	SPhap	0.66	0.31	0.00	1.31	2.12		<0.05	
FreqNeg (no Costa Rica)	Intercept	-0.05	0.10	-0.26	0.16	-0.52	15	0.61	0.06
	SPhap	0.46	0.33	-0.23	1.16	1.42		0.18	
IntNeg	Intercept	-0.01	0.10	-0.22	0.19	-0.15	16	0.88	-0.06
	SPsad	0.04	0.25	-0.50	0.57	0.15		0.89	
IntNeg (no Poland)	Intercept	-0.05	0.10	-0.27	0.17	-0.49	15	0.63	-0.02
	SPsad	0.35	0.42	-0.55	1.26	0.83		0.42	

IntNeg	Intercept	-0.01	0.09	-0.20	0.18	-0.09	16	0.93	0.10
	SPhap	0.46	0.28	-0.12	1.05	1.68		0.11	
IntNeg (no Costa Rica)	Intercept	-0.04	0.09	-0.23	0.15	-0.48	15	0.64	0.00
	SPhap	0.29	0.29	-0.33	0.92	1.01		0.33	
MDD	Intercept	0.00	0.00	0.00	0.00	-0.01	16	0.99	0.15
	SPsad	0.01	0.00	0.00	0.01	1.99		0.06	
MDD (no Poland)	Intercept	0.00	0.00	0.00	0.00	0.27	15	0.79	-0.04
	SPsad	0.00	0.01	-0.01	0.01	0.58		0.57	
MDD	Intercept	0.00	0.00	0.00	0.00	0.03	16	0.97	-0.02
	SPhap	0.00	0.00	-0.01	0.01	0.84		0.42	
MDD (no Estonia, Slovakia)	Intercept	0.00	0.00	0.00	0.00	-0.11	14	0.92	0.00
	SPhap	0.00	0.00	-0.01	0.01	0.97		0.35	
Suicide	Intercept	0.01	0.94	-1.98	2.00	0.01	16	0.99	0.04
	SPsad	-3.21	2.48	-8.46	2.04	-1.30		0.21	
Suicide	Intercept	-0.06	0.92	-2.01	1.89	-0.07	16	0.95	0.08
	SPhap	-4.57	2.88	-10.67	1.52	-1.59		0.13	
Suicide (no Estonia)	Intercept	-0.25	0.96	-2.29	1.79	-0.26	15	0.80	0.01
	SPhap	-3.42	3.22	-10.29	3.45	-1.06		0.31	

Note: SWL = Satisfaction with life, DASS = depression subscale from the DASS scale, FreqNeg = Frequency of negative emotions, IntNeg = Intensity of negative emotions, MDD = Major Depressive Disorder prevalence, Suicide = Suicide prevalence, SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy.

Appendix C

Regression table: individual-level correlates of social pressure

Table C: Individual-level correlates.

				CI_{95}, for β					
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2
SPsad	Intercept	-0.11	0.04	-0.20	-0.03	-2.59	2662	<0.01	0.00
	Gender	0.14	0.05	0.05	0.24	2.88		<0.01	
SPsad (no outliers)	Intercept	-0.11	0.04	-0.20	-0.03	-2.60	2659	<0.01	0.00
	Gender	0.15	0.05	0.05	0.24	2.90		<0.01	
SPhap	Intercept	-0.21	0.05	-0.30	-0.12	-4.53	2665	<0.001	0.01
	Gender	0.28	0.05	0.17	0.38	5.21		<0.001	
SPhap (no outliers)	Intercept	-0.21	0.05	-0.30	-0.12	-4.53	2662	<0.001	0.01
	Gender	0.28	0.05	0.17	0.38	5.21		<0.001	
SPsad	Intercept	0.08	0.13	-0.18	0.34	0.59	783	0.56	0.00
	Religion	-0.15	0.14	-0.42	0.12	-1.07		0.29	
SPsad (no outliers)	Intercept	0.08	0.13	-0.18	0.34	0.59	780	0.56	0.00
	Religion	-0.15	0.14	-0.42	0.12	-1.08		0.28	
SPhap	Intercept	0.07	0.14	-0.20	0.34	0.52	782	0.60	0.00
	Religion	-0.05	0.14	-0.33	0.23	-0.35		0.72	
SPhap (no outliers)	Intercept	0.07	0.14	-0.20	0.34	0.52	779	0.60	0.00
	Religion	-0.05	0.14	-0.34	0.23	-0.36		0.72	
SPsad	Intercept	0.00	0.02	-0.04	0.04	0.06	2688	0.96	0.00
	Hedonism	0.00	0.01	-0.02	0.02	-0.20		0.84	
SPhap	Intercept	0.01	0.02	-0.04	0.05	0.35	2690	0.73	0.00
	Hedonism	0.02	0.01	0.00	0.04	1.71		0.09	
SPhap (no outliers)	Intercept	0.01	0.02	-0.04	0.05	0.35	2687	0.72	0.00
	Hedonism	0.02	0.01	0.00	0.04	1.73		0.08	

Note: SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy.

Appendix D

Regression table: country-level correlates of social pressure

Table D: Country-level correlates.

				CI_{95}, for β					
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2
SPsad	Intercept	0.00	0.09	-0.20	0.20	0.03	16	0.98	-0.04
	Ind	0.00	0.00	-0.01	0.01	-0.57		0.58	
SPsad (no Costa Rica)	Intercept	-0.02	0.10	-0.23	0.18	-0.24	15	0.82	-0.07
	Ind	0.00	0.00	-0.01	0.01	-0.13		0.90	
SPhap	Intercept	-0.01	0.08	-0.18	0.15	-0.17	16	0.87	-0.01
	Ind	0.00	0.00	-0.01	0.00	-0.91		0.38	
SPhap (no Costa Rica)	Intercept	-0.04	0.08	-0.21	0.12	-0.54	15	0.60	-0.06
	Ind	0.00	0.00	-0.01	0.01	-0.32		0.76	
SPsad	Intercept	-0.05	0.10	-0.27	0.17	-0.48	13	0.64	0.03
	SE	0.13	0.10	-0.10	0.35	1.22		0.25	
SPhap	Intercept	-0.06	0.08	-0.24	0.12	-0.68	13	0.51	0.00
	SE	0.09	0.09	-0.10	0.28	1.03		0.32	
SPhap (no Malaysia)	Intercept	-0.12	0.07	-0.27	0.04	-1.66	12	0.12	0.30
	SE	0.21	0.08	0.03	0.39	2.59		<0.05	
SPsad	Intercept	0.00	0.09	-0.19	0.19	0.03	16	0.98	0.03
	SM	0.01	0.01	-0.01	0.03	1.24		0.23	
SPhap	Intercept	-0.01	0.07	-0.15	0.13	-0.20	16	0.84	0.28
	SM	0.02	0.01	0.00	0.03	2.77		<0.05	
SPhap (no Singapore)	Intercept	0.03	0.06	-0.10	0.15	0.48	15	0.64	0.50
	SM	0.03	0.01	0.01	0.04	4.13		<0.001	

Note: SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy, Ind = Individualism, SE = Self-expression, SM = Social media penetration.

Appendix E

Regression table: individual-level moderating factors of the relationship between social pressure and well-being

Table E: Individual-level moderating factors.

				CI_{95}, for β						
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2	AIC
SWL	Intercept	0.02	0.03	-0.03	0.07	0.82	2162	0.41	0.04	
	SPsad	-0.22	0.02	-0.27	-0.17	-9.18		<0.001		6952.56
	Religiosity	0.05	0.01	0.02	0.08	3.74		<0.001		6951.39
	SPsad x religiosity	0.01	0.01	-0.01	0.04	0.91		0.36		6963.52
SWL	Intercept	0.02	0.03	-0.03	0.08	0.91	2164	0.37	0.01	
	SPhap	-0.04	0.02	-0.09	0.00	-1.91		0.06		7029.96
	Religiosity	0.06	0.01	0.03	0.09	4.16		<0.001		7029.13
	SPhap x religiosity	-0.01	0.01	-0.03	0.01	-1.08		0.28		7043.89
SWL (no outliers)	Intercept	0.02	0.03	-0.03	0.07	0.88	2163	0.38	0.01	
	SPhap	-0.04	0.02	-0.09	0.00	-1.92		0.05		7026.72
	Religiosity	0.06	0.014	0.03	0.09	4.13		<0.001		7025.92
	SPhap x religiosity	-0.01	0.01	-0.03	0.01	-1.09		0.27		7040.48
DASS	Intercept	0.09	0.21	-0.32	0.50	0.44	2159	0.66	0.06	
	SPsad	2.29	0.19	1.91	2.66	11.99		<0.001		15948.01
	Religiosity	-0.06	0.11	-0.27	0.16	-0.54		0.59		15949.68
	SPsad x religiosity	-0.14	0.10	-0.34	0.05	-1.47		0.14		15949.53
DASS	Intercept	0.04	0.21	-0.37	0.45	0.18	2161	0.86	0.04	
	SPhap	1.72	0.18	1.38	2.07	9.77		<0.001		16010.60
	Religiosity	-0.12	0.11	-0.34	0.10	-1.07		0.29		16011.53
	SPhap x religiosity	0.05	0.09	-0.12	0.23	0.61		0.54		16013.16
DASS (no outliers)	Intercept	0.04	0.21	-0.37	0.45	0.20	2160	0.84	0.04	
	SPhap	1.73	0.18	1.38	2.07	9.78		<0.001		16003.22
	Religiosity	-0.12	0.11	-0.34	0.10	-1.04		0.30		16004.21
	SPhap x religiosity	0.06	0.09	-0.12	0.23	0.63		0.52		16005.81

FreqNeg	Intercept	0.04	0.04	-0.03	0.11	1.20	2168	0.23	0.06	
	SPsad	0.40	0.03	0.33	0.46	12.21		<0.001		8328.22
	Religiosity	0.02	0.02	-0.02	0.05	0.94		0.35		8329.34
	SPsad x religiosity	0.00	0.02	-0.04	0.03	-0.28		0.78		8331.26
FreqNeg	Intercept	0.03	0.04	-0.04	0.10	0.91	2169	0.37	0.06	
	SPhap	0.35	0.03	0.29	0.41	11.75		<0.001		8337.53
	Religiosity	0.01	0.02	-0.03	0.04	0.36		0.72		8339.38
	SPhap x religiosity	0.01	0.02	-0.02	0.04	0.57		0.57		8341.05
FreqNeg (no outliers)	Intercept	0.03	0.04	-0.04	0.10	0.90	2168	0.37	0.06	
	SPhap	0.35	0.03	0.29	0.41	11.74		<0.001		8334.69
	Religiosity	0.01	0.02	-0.03	0.04	0.36		0.72		8336.54
	SPhap x religiosity	0.01	0.02	-0.02	0.04	0.57		0.57		8338.21
IntNeg	Intercept	0.02	0.04	-0.05	0.10	0.66	2166	0.51	0.06	
	SPsad	0.42	0.03	0.35	0.49	12.15		<0.001		8587.19
	Religiosity	0.03	0.02	-0.01	0.07	1.71		0.09		8586.34
	SPsad x religiosity	-0.02	0.02	-0.05	0.02	-0.89		0.37		8587.54
IntNeg	Intercept	0.01	0.04	-0.06	0.09	0.33	2167	0.74	0.06	
	SPhap	0.36	0.03	0.30	0.42	11.32		<0.001		8613.28
	Religiosity	0.02	0.02	-0.02	0.06	1.15		0.25		8613.88
	SPhap x religiosity	0.01	0.02	-0.02	0.04	0.42		0.68		8615.71
IntNeg (no outliers)	Intercept	0.01	0.04	-0.06	0.09	0.35	2166	0.73	0.06	
	SPhap	0.36	0.03	0.30	0.42	11.33		<0.001		8612.28
	Religiosity	0.02	0.02	-0.02	0.06	1.17		0.24		8610.46
	SPhap x religiosity	0.01	0.02	-0.02	0.04	0.43		0.67		8612.28

Note: SWL = Satisfaction with life, DASS = depression subscale from the DASS scale, FreqNeg = Frequency of negative emotions, IntNeg = Intensity of negative emotions, SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy.

Appendix F

Regression table: country-level moderating factors of the relationship between social pressure and well-being

Table F: Country-level moderating factors.

				CI_{95}, for β						
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2	AIC
SWL	Intercept	0.00	0.02	-0.05	0.05	0	2796	1.00	0.04	
	SPsad	-0.21	0.02	-0.25	-0.17	-9.97		<0.001		9018.40
	Ind	0.00	0.00	0.00	0.00	0.06		0.95		9020.40
	SPsad x Ind	0.00	0.00	0.00	0.00	-0.33		0.75		9022.29
SWL (no outliers)	Intercept	0.00	0.02	-0.05	0.05	-0.01	2795	0.99	0.04	
	SPsad	-0.21	0.02	-0.25	-0.17	-9.97		<0.001		9015.96
	Ind	0.00	0.00	0.00	0.00	0.05		0.96		9017.96
	SPsad x Ind	0.00	0.00	0.00	0.00	-0.34		0.74		9019.85
SWL	Intercept	0.00	0.02	-0.05	0.05	-0.06	2800	0.96	0.00	
	SPhap	-0.04	0.02	-0.08	0.00	-2.08		0.04		9129.37
	Ind	0.00	0.00	0.00	0.00	0.03		0.97		9131.37
	SPhap x Ind	0.00	0.00	0.00	0.00	0.41		0.68		9133.20
SWL (no outliers)	Intercept	0.00	0.02	-0.05	0.04	-0.07	2797	0.95	0.00	
	SPhap	-0.04	0.02	-0.08	0.00	-2.08		0.04		9122.32
	Ind	0.00	0.00	0.00	0.00	0.01		0.99		9120.49
	SPhap x Ind	0.00	0.00	0.00	0.00	0.40		0.69		9118.49
DASS	Intercept	-0.01	0.18	-0.37	0.35	-0.05	2777	0.96	0.06	
	SPsad	2.22	0.17	1.89	2.55	13.24		<0.001		20440.92
	Ind	0.00	0.01	-0.01	0.01	0.07		0.94		20442.91
	SPsad x Ind	0.01	0.01	-0.01	0.02	1.13		0.26		20443.64
DASS	Intercept	0.00	0.19	-0.36	0.37	0.02	2781	0.98	0.04	
	SPhap	1.73	0.16	1.42	2.04	10.96		<0.001		20533.29
	Ind	0.00	0.01	-0.01	0.01	-0.08		0.94		20535.29
	SPhap x Ind	0.00	0.01	-0.01	0.01	0.43		0.67		20537.10
DASS	Intercept	0.00	0.19	-0.36	0.37	0.01	2780	1.00	0.04	

(no outliers)	SPhap	1.73	0.16	1.42	2.04	10.96		<0.001		20525.54
	Ind	0.00	0.01	-0.01	0.01	-0.10		0.92		20527.53
	SPhap x Ind	0.00	0.01	-0.01	0.01	0.42		0.67		20529.35
FreqNeg	Intercept	0.00	0.03	-0.06	0.06	-0.02	2783	0.99	0.06	
	SPsad	0.39	0.03	0.34	0.45	13.61		<0.001		10669.83
	Ind	0.00	0.00	0.00	0.00	0.07		0.94		10671.83
	SPsad x Ind	0.00	0.00	0.00	0.00	0.05		0.96		10673.83
FreqNeg	Intercept	0.001	0.03	-0.06	0.06	0.04	2785	0.97	0.06	
	SPhap	0.36	0.03	0.31	0.41	13.48		<0.001		10683.26
	Ind	0.00	0.00	0.00	0.00	-0.10		0.92		10685.25
	SPhap x Ind	0.00	0.00	0.00	0.00	-0.27		0.79		10687.18
IntNeg	Intercept	0.00	0.03	-0.07	00.0.7	-0.03	2779	0.98	0.06	
	SPsad	0.42	0.03	0.36	0.48	13.56		<0.001		11022.94
	Ind	0.00	0.00	0.00	0.00	0.08		0.94		11024.93
	SPsad x Ind	0.00	0.00	0.00	0.00	-0.01		1.00		11026.93
IntNeg	Intercept	0.00	0.03	-0.07	0.07	-0.03	2781	0.98	0.06	
	SPhap	0.37	0.03	0.32	0.43	12.92		<0.001		11056.94
	Ind	0.00	0.00	0.00	0.00	-0.02		0.98		11058.94
	SPhap x Ind	0.00	0.00	0.00	0.00	0.09		0.93		11060.93
IntNeg (no outliers)	Intercept	0.00	0.03	-0.07	0.07	-0.01	2780	0.99	0.06	
	SPhap	0.37	0.03	0.32	0.43	12.93		<0.001		11052.43
	Ind	0.00	0.00	0.00	0.00	0.00		1.00		11054.43
	SPhap x Ind	0.00	0.00	0.00	0.00	0.10		0.92		11056.42
MDD	Intercept	0.00	0.00	0.00	0.00	-0.18	14	0.86	0.32	
	SPsad	0.01	0.00	0.00	0.01	2.35		<0.05		-136.14
	Ind	0.00	0.00	0.00	0.00	2.46		<0.05		-139.88
	SPsad x Ind	0.00	0.00	0.00	0.00	-0.76		0.46		-138.60
MDD (no Poland)	Intercept	0.00	0.00	0.00	0.00	0.17	13	0.87	0.20	
	SPsad	0.00	0.01	-0.01	0.01	0.34		0.74		-127.86
	Ind	0.00	0.00	0.00	0.00	2.50		<0.05		-131.01

	SPsad x Ind	0.00	0.00	0.00	0.00	-1.17		0.26		-130.72
MDD	Intercept	0.00	0.00	0.00	0.00	0.11	14	0.91	0.09	
	SPhap	0.01	0.00	0.00	0.01	1.29		0.22		-132.94
	Ind	0.00	0.00	0.00	0.00	1.71		0.11		-135.38
	SPhap x Ind	0.00	0.00	0.00	0.00	0.21		0.84		-133.43
Suicide	Intercept	-0.22	0.90	-2.14	1.71	-0.24	14	0.81	0.16	
	SPsad	-3.12	2.37	-8.20	1.97	-1.32		0.21		104.72
	Ind	0.07	0.04	0.00	0.15	2.04		0.06		103.37
	SPsad x Ind	-0.16	0.14	-0.46	0.14	-1.14		0.28		103.79
Suicide (no Poland)	Intercept	-0.07	0.98	-2.18	2.04	-0.07	13	0.94	0.12	
	SPsad	-4.95	4.69	-15.09	5.19	-2.05		0.31		100.20
	Ind	0.07	0.04	-0.01	0.15	2.00		0.07		99.02
	SPsad x Ind	-0.20	0.17	-0.55	0.16	-1.18		0.26		99.28
Suicide	Intercept	-0.02	0.95	-2.05	2.01	-0.02	14	0.98	0.11	
	SPhap	-3.45	3.15	-10.20	3.30	-1.10		0.29		103.88
	Ind	0.05	0.04	-0.03	0.14	1.37		0.19		102.98
	SPhap x Ind	0.01	0.14	-0.29	0.32	0.10		0.92		104.97
Suicide (no USA)	Intercept	-0.36	1.08	-2.69	1.96	-0.34	13	0.74	0.10	
	SPhap	-4.92	3.80	-13.14	3.29	-1.30		0.22		97.71
	Ind	0.05	0.04	-0.04	0.14	1.17		0.26		98.11
	SPhap x Ind	-0.05	0.17	-0.41	0.32	-0.29		0.78		100.00
SWL	Intercept	0.00	0.03	-0.05	0.05	0.02	2311	0.99	0.03	
	SPsad	-0.19	0.02	-0.24	-0.15	-8.14		<0.001		9018.40
	SE	0.00	0.02	-0.05	0.05	0.02		0.99		7454.50
	SPsad x SE	-0.02	0.02	-0.06	0.03	-0.75		0.46		7455.94
SWL	Intercept	0.00	0.03	-0.05	0.05	-0.11	2316	0.92	0.00	
	SPhap	-0.03	0.02	-0.07	0.01	-1.48		0.14		9129.37
	SE	0.00	0.03	-0.04	0.05	0.17		0.86		7539.26
	SPhap x SE	-0.03	0.02	-0.08	0.01	-1.54		0.13		7538.90
DASS	Intercept	-0.01	0.20	-0.40	0.38	-0.03	2294	0.97	0.06	

	SPsad	2.17	0.18	1.81	2.53	11.75		<0.001		20440.92
	SE	0.02	0.20	-0.37	0.40	0.08		0.94		16864.94
	SPsad x SE	0.20	0.19	-0.17	0.57	1.07		0.28		16865.79
DASS	Intercept	0.01	0.20	-0.38	0.40	0.05	2299	0.96	0.04	
	SPhap	1.68	0.17	1.35	2.01	10.01		<0.001		20533.29
	SE	-0.02	0.20	-0.40	0.37	-0.09		0.93		16847.69
	SPhap x SE	0.09	0.17	-0.25	0.42	0.51		0.61		16949.42
FreqNeg	Intercept	0.00	0.03	-0.07	0.07	0.00	2300	1.00	0.06	
	SPsad	0.38	0.03	0.31	0.44	11.80		<0.001		10669.83
	SE	0.00	0.03	-0.06	0.07	0.05		0.96		8843.38
	SPsad x SE	0.03	0.03	-0.03	0.10	1.07		0.28		8844.23
FreqNeg	Intercept	0.00	0.03	-0.06	0.07	0.09	2303	0.93	0.06	
	SPhap	0.34	0.03	0.28	0.40	11.73		<0.001		10683.26
	SE	-0.01	0.03	-0.07	0.06	-0.16		0.87		8863.30
	SPhap x SE	0.01	0.03	-0.05	0.06	0.22		0.82		8865.25
IntNeg	Intercept	0.00	0.04	-0.07	0.07	-0.01	2296	0.99	0.06	
	SPsad	0.39	0.03	0.32	0.46	11.41		<0.001		11022.94
	SE	0.00	0.04	-0.07	0.07	0.07		0.94		9146.48
	SPsad SE	0.05	0.03	-0.02	0.12	1.46		0.15		9146.35
IntNeg	Intercept	0.00	0.04	-0.07	0.07	0.02	2299	0.98	0.05	
	SPhap	0.34	0.03	0.27	0.40	10.80		<0.001		11056.94
	SE	0.00	0.04	-0.07	0.07	-0.05		0.96		9187.22
	SPhap x SE	0.03	0.03	-0.03	0.09	0.91		0.36		9188.39
MDD	Intercept	0.00	0.00	0.00	0.00	0.26	11	0.80	0.41	
	SPsad	0.00	0.00	0.00	0.01	1.09		0.30		-136.14
	SE	0.00	0.00	0.00	0.01	2.40		<0.05		-117.61
	SPsad x SE	0.00	0.01	-0.02	0.01	-0.84		0.42		-116.53
MDD	Intercept	0.00	0.00	0.00	0.00	-0.30	11	0.77	0.27	
	SPhap	0.00	0.00	-0.01	0.01	0.51		0.62		-132.94

	SE	0.00	0.00	0.00	0.01	2.49		<0.05		-115.09
	SPhap x SE	0.00	0.00	-0.01	0.01	0.19		0.85		-113.14
Suicide	Intercept	-0.50	1.01	-2.71	1.72	-0.50	11	0.63	0.17	
	SPsad	-4.72	2.57	-10.38	0.94	-1.84		0.09		104.72
	SE	1.87	0.93	-0.18	3.92	2.01		0.07		81.90
	SPsad x SE	-0.83	4.75	-11.29	9.63	-0.18		0.86		83.86
Suicide	Intercept	-0.89	0.84	-2.73	0.95	-1.07	11	0.31	0.28	
	SPhap	-4.15	3.08	-10.93	2.63	-1.35		0.21		103.88
	SE	1.69	0.87	-0.22	3.60	1.95		0.08		81.26
	SPhap x SE	3.32	3.24	-3.81	10.45	1.03		0.33		81.89
Suicide (no Malaysia)	Intercept	-2.42	1.41	-5.55	0.71	-1.72	10	0.12	0.17	
	SPhap	-6.16	3.34	-13.59	1.28	-1.84		0.09		97.19
	SE	3.56	1.64	-0.09	7.22	2.17		0.06		77.28
	SPhap x SE	10.35	6.14	-3.33	24.02	1.69		0.12		75.78

Note: SWL = Satisfaction with life, DASS = depression subscale from the DASS scale, FreqNeg = Frequency of negative emotions, IntNeg = Intensity of negative emotions, MDD = Major Depressive Disorder prevalence, Suicide = Suicide prevalence, SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy, Ind = Individualism, SE = Self-expression.

Appendix G
Exploratory t-tests

Table G1: Mean differences of social pressure to be happy and social pressure not to be sad.

Social pressure	*M*	*SD*	*t*	df	*p*	Cohen's *d* (95% CI)
To be happy	6.08	1.22	13.73	5608.2	<0.001	0.38
To not be sad	5.64	1.16				

Table G3: Mean to scale mid-point comparisons for individualism and self-expression.

Variable	*M*	*SD*	Comparison value	CI_{95}, for mean comparison		*t*	df	*p*	Cohen's *d* (95% CI)
				Lower	Upper				
Ind	61.40	26.49	50	60.59	Inf	23.28	2927	<0.001	0.43
SE	1.08	1.01	0	1.04	Inf	52.66	2435	<0.001	1.07

Note: Ind = Individualism, SE = Self-expression.

Appendix H

Regression table: exploratory regression models at the individual level.

Table H: Exploratory models at the individual level.

				CI_{95}, for β					
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2
FreqNeg	Intercept	-0.34	0.07	-0.48	-0.21	-5.12	2669	<0.001	0.01
	Gender	0.45	0.08	0.29	0.60	5.81		<0.001	
IntNeg	Intercept	-0.35	0.07	-0.48	-0.21	-4.87	2667	<0.001	0.01
	Gender	0.45	0.08	0.30	0.60	5.46		<0.001	
SWL	Intercept	-0.09	0.05	-0.18	0.01	-1.76	2654	0.08	0.04
	SPsad	-0.12	0.05	-0.21	-0.03	-2.55		<0.05	
	Gender	0.12	0.06	0.01	0.23	2.224		<0.05	
	SPsad x gender	-0.14	0.05	-0.24	-0.03	-2.61		<0.01	
SWL	Intercept	-0.05	0.05	-0.15	0.05	-1.03	2657	0.31	0.01
	SPhap	0.09	0.04	0.01	0.17	2.18		<0.05	
	Gender	0.09	0.06	-0.02	0.20	1.55		0.12	
	SPhap x gender	-0.20	0.05	-0.29	-0.11	-4.28		<0.001	
DASS	Intercept	0.13	0.38	-0.62	0.88	0.34	2651	0.73	0.07
	SPsad	1.47	0.37	0.75	2.19	3.99		<0.001	
	Gender	-0.27	0.44	-1.13	0.59	-0.61		0.54	
	SPsad x gender	1.07	0.41	0.26	1.89	2.59		<0.01	
DASS	Intercept	0.07	0.39	-0.69	0.84	0.19	2654	0.85	0.05
	SPhap	0.60	0.32	-0.02	1.23	1.90		0.06	
	Gender	-0.26	0.45	-1.13	0.62	-0.58		0.56	
	SPhap x gender	1.57	0.37	0.85	2.29	4.26		<0.001	
FreqNeg	Intercept	-0.32	0.07	-0.45	-0.19	-4.85	2660	<0.001	0.08
	SPsad	0.26	0.06	0.14	0.39	4.19		<0.001	
	Gender	0.41	0.07	0.26	0.55	5.43		<0.001	
	SPsad x gender	0.16	0.07	0.02	0.30	2.26		<0.05	
FreqNeg	Intercept	-0.30	0.07	-0.43	-0.17	-4.50	2262	<0.001	0.07

	SPhap	0.21	0.05	0.11	0.32	3.95		<0.001	
	Gender	0.38	0.08	0.23	0.52	4.98		<0.001	
	SPhap x gender	0.18	0.06	0.05	0.30	2.82		<0.01	
IntNeg	Intercept	-0.31	0.07	-0.45	-0.18	-4.51	2658	<0.001	0.08
	SPsad	0.33	0.07	0.20	0.46	4.93		<0.001	
	Gender	0.40	0.08	0.24	0.55	4.98		<0.001	
	SPsad x gender	0.11	0.08	-0.04	0.26	1.49		0.14	
IntNeg	Intercept	-0.30	0.07	-0.43	-0.16	-4.20	2660	<0.001	0.07
	SPhap	0.24	0.06	0.13	0.36	4.21		<0.001	
	Gender	0.37	0.08	0.21	0.53	4.57		<0.001	
	SPhap x gender	0.16	0.07	0.03	0.29	2.40		<0.05	
SPsad	Intercept	0.01	0.03	-0.05	0.08	0.39	2814	0.70	0.00
	Religion	-0.02	0.04	-0.11	0.06	-0.49		0.62	
SPhap	Intercept	-0.04	0.04	-0.11	0.03	-1.12	2811	0.26	0.00
	Religion	0.07	0.05	-0.03	0.16	1.41		0.16	
SWL	Intercept	-0.10	0.04	-0.18	0.03	-2.65	2808	<0.01	0.00
	Religion	0.16	0.05	0.07	0.25	3.33		<0.001	
DASS	Intercept	0.39	0.31	-0.21	1.00	1.27	2789	0.20	0.00
	Religion	-0.62	0.39	-1.38	0.14	-1.60		0.11	
FreqNeg	Intercept	0.06	0.05	-0.05	0.16	1.04	2793	0.30	0.00
	Religion	-0.09	0.07	-0.22	0.04	-1.31		0.19	
IntNeg	Intercept	0.05	0.06	-0.06	0.16	0.82	2789	0.41	0.00
	Religion	-0.07	0.07	-0.21	0.07	-1.03		0.30	
SWL	Intercept	-0.10	0.04	-0.17	-0.02	-2.58	2796	<0.05	0.04
	SPsad	-0.14	0.04	-0.21	-0.07	3.24		<0.001	
	Religion	0.15	0.05	0.06	0.25	3.24		<0.01	
	SPsad x religion	-0.10	0.04	-0.19	-0.02	-2.35		<0.05	
SWL	Intercept	-0.10	0.04	-0.17	-0.03	-2.62	2800	<0.01	0.01
	SPhap	0.06	0.03	-0.01	0.12	1.75		0.08	
	Religion	0.16	0.05	0.07	0.25	3.33		<0.001	

	SPhap x religion	-0.15	0.04	-0.23	-0.08	-3.86		<0.001	
DASS	Intercept	0.36	0.30	-0.23	0.94	1.19	2777	0.24	0.06
	SPsad	2.39	0.28	1.83	2.95	8.42		<0.001	
	Religion	-0.57	0.38	-1.31	0.16	-1.52		0.13	
	SPsad x religion	-0.20	0.35	-0.89	0.48	-0.59		0.56	
DASS	Intercept	0.44	0.30	-0.15	1.04	1.46	2781	0.14	0.04
	SPhap	1.51	0.25	1.01	2.01	5.92		<0.001	
	Religion	-0.70	0.38	-1.45	2.01	-1.85		0.06	
	SPhap x religion	0.38	0.32	-0.25	1.00	1.18		0.24	
FreqNeg	Intercept	0.05	0.05	-0.05	0.15	1.05	2783	0.30	0.06
	SPsad	0.40	0.05	0.31	0.50	8.21		<0.001	
	Religion	-0.09	0.06	-0.21	0.04	-1.32		0.19	
	SPsad x religion	-0.01	0.06	-0.13	0.10	-0.24		0.81	
FreqNeg	Intercept	0.07	0.05	-0.03	0.17	1.33	2785	0.18	0.06
	SPhap	0.31	0.04	0.22	0.39	7.03		<0.001	
	Religion	-0.11	0.06	-0.24	0.02	-1.68		0.09	
	SPhap x religion	0.09	0.05	-0.02	0.19	1.60		0.11	
IntNeg	Intercept	0.05	0.06	-0.06	0.15	0.82	2779	0.41	0.06
	SPsad	0.44	0.05	0.33	0.54	8.36		<0.001	
	Religion	-0.07	0.07	-0.21	0.06	-1.04		0.30	
	SPsad x religion	-0.03	0.06	-0.15	0.10	-0.46		0.65	
IntNeg	Intercept	0.06	0.06	-0.05	0.17	1.05	2781	0.29	0.06
	SPhap	0.34	0.05	0.25	0.43	7.28		<0.001	
	Religion	-0.09	0.07	-0.23	0.04	-1.36		0.18	
	SPhap x religion	0.05	0.06	-0.06	0.17	0.91		0.36	
SWL	Intercept	0.02	0.03	-0.03	0.08	0.90	2172	0.37	0.01
	Religiosity	0.06	0.01	0.03	0.08	3.99		<0.001	
DASS	Intercept	0.08	0.21	-0.34	0.50	0.38	2169	0.70	0.00
	Religiosity	-0.10	0.11	-0.33	0.12	-0.91		0.36	
FreqNeg	Intercept	0.04	0.04	-0.03	0.11	1.10	2177	0.27	0.00

	Religiosity	0.01	0.02	-0.03	0.05	0.55		0.58	
IntNeg	Intercept	0.02	0.04	-0.05	0.10	0.61	2175	0.55	0.00
	Religiosity	0.03	0.02	-0.01	0.07	1.29		0.20	
SWL	Intercept	0.00	0.02	-0.04	0.05	0.15	2690	0.88	0.00
	Hedonism	-0.01	0.01	-0.03	0.02	-0.59		0.56	
DASS	Intercept	0.02	0.20	-0.36	0.39	0.08	2687	0.93	0.00
	Hedonism	0.09	0.10	-0.10	0.28	0.92		0.36	
FreqNeg	Intercept	0.00	0.03	-0.06	0.07	0.14	2695	0.89	0.00
	Hedonism	0.03	0.02	0.00	0.07	2.03		<0.05	
IntNeg	Intercept	0.00	0.03	-0.06	0.07	0.14	2693	0.89	0.00
	Hedonism	0.04	0.02	0.00	0.07	2.23		<0.05	

Note: SWL = Satisfaction with life, DASS = depression subscale from the DASS scale, FreqNeg = Frequency of negative emotions, IntNeg = Intensity of negative emotions, SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy, Religion = practicing a religion.

Appendix I

Regression table: exploratory regression models at the country level.

Table I: Exploratory models at the country level.

				CI_{95}, for β					
Outcome	Predictor	*β*	SE β	Lower	Upper	*t*	df	*p*	Adj. R^2
SWL	Intercept	0.05	0.06	-0.08	0.18	0.83	16	0.42	-0.06
	Hedonism	0.01	0.05	-0.11	0.12	0.15		0.88	
DASS	Intercept	-0.12	0.67	-1.56	1.29	-0.20	16	0.85	0.36
	Hedonism	1.98	0.61	0.68	3.28	3.22		<0.01	
DASS (no Malaysia)	Intercept	0.27	0.57	-0.96	1.49	0.46	15	0.65	-0.04
	Hedonism	0.42	0.75	-1.17	2.01	0.56		0.58	
FreqNeg	Intercept	-0.02	0.11	-0.26	0.22	-0.20	16	0.85	-0.06
	Hedonism	-0.02	0.10	-0.24	0.20	-0.19		0.85	
IntNeg	Intercept	-0.02	0.10	-0.22	0.19	-0.18	16	0.86	-0.06
	Hedonism	-0.03	0.09	-0.21	0.16	-0.33		0.75	
MDD	Intercept	0.00	0.00	0.00	0.00	0.21	16	0.83	0.18
	Hedonism	0.00	0.00	0.00	0.00	2.20		<0.05	
Suicide	Intercept	0.17	0.88	-1.70	2.05	0.20	16	0.85	0.16
	Hedonism	1.65	0.81	-0.06	3.36	2.04		0.06	
SPsad	Intercept	0.01	0.09	-0.19	0.21	0.09	16	0.93	-0.04
	Hedonism	0.05	0.09	-0.13	0.24	0.63		0.54	
SPhap	Intercept	-0.01	0.08	-0.18	0.16	-0.18	16	0.86	-0.06
	Hedonism	-0.01	0.07	-0.16	0.15	-0.13		0.90	
SPhap (no Malaysia)	Intercept	-0.05	0.08	-0.21	0.12	-0.59	15	0.56	0.02
	Hedonism	0.12	0.10	-0.10	0.33	1.14		0.27	

Note: SWL = Satisfaction with life, DASS = depression subscale from the DASS scale, FreqNeg = Frequency of negative emotions, IntNeg = Intensity of negative emotions, MDD = Major Depressive Disorder prevalence, Suicide = Suicide prevalence, SPsad = Social pressure not to be sad, SPhap = Social pressure to be happy.

Appendix J
Code for the statistical analysis

The pre-registered code for statistical analysis, mock data, a description of the variables and the final version of the code used for statistical analysis are available on the Open Science Framework (https://osf.io/mnjr7/). They are enclosed as the following documents:

- **dummydata.RData** : The mock data used to write the pre-registered code

- **Data Variable.docx** : An overview of variable names, re-coded items, and composite scores used in our dataset and code

- **Code.R** : The pre-registered code for statistical analysis

- **FinalCode.R** : The final code used for statistical analysis

In order to access the mock data and the codes used for statistical analysis, the programming language and free software environment for statistical computing and graphics R (Version 3.5.1, R Core Team) is needed.

Appendix K
Pre-registration: theoretical background, hypotheses, method & analytical approach

Feeling bad about being sad: A cross-cultural examination of the perceived social pressure to avoid feeling negative emotions and its role for well-being

1. Theoretical Background

Valuing happiness and rejecting negative emotions such as sadness is a salient norm in Western society. Through television advertising or national campaigns, happiness is being communicated to us as being important for personal and national well-being (Bastian, Kuppens, Hornsey, Park, Koval, & Uchida, 2012; White, 2007). However, and seemingly contradictory, rates of depression and anxiety continue to increase in Western countries during the past few years (World Health Organization, 2015).

Among other factors, social environments play an important role in how we evaluate our emotions (Fischer, Rotterveel, Evers, & Manstead, 2004; Manstead & Fischer, 2001). Salient cultural norms convey social expectancies of emotions leading to the construction of emotional goals (Bastian, Pe & Kuppens, 2017). Our societal norms tell us that we are expected to feel happy, and not to feel sad, anxious or stressed (Bastian et al., 2012). Normal emotions, such as sadness or anxiety, are pathologized and their potential benefits, such as enhancing creativity (Wilson, 2008), improving memory performance, reducing judgemental errors, improving motivation (Forgas, 2013) and rendering life more meaningful (Hayes, Strosahl, & Wilson, 1999), ignored (Haslam, 2005). Expressing negative emotions has even been associated with psychosocial well-being (Gross & John, 2003). However, paradoxically, social pressure to feel happy and to not experience such negative emotions has been associated with a range of negative consequences, such as increased negative emotions, depression, loneliness, and reduced satisfaction with life (Bastian et al., 2012; Bastian, Kuppens, De Roover, Diener, 2014).

Why does this imbalanced emphasis on not feeling negative emotions lead to negative outcomes? This occurs because we weigh our own emotions against these societal standards, which determine whether our emotions are culturally acceptable or not (Boiger & Mesquita, 2012; Bastian et al., 2014; Eid & Diener, 2001). This comparison is done independently of personal expectancies (Bastian et al., 2012). When we inevitably cannot live up to societal expectations (e.g., the social expectancy to be continuously happy and not sad), we feel like we have failed, as there is a mismatch between our emotional experience and what others expect us to feel. One mechanism that has been found to mediate the relationship between social expectancies to be happy and well-being is negative self-reflection which causes those same non-normative negative emotions to amplify (Bastian et al., 2012). In conclusion, social expectancies to not be sad increase negative emotion and reduce well-being (Figure 1).

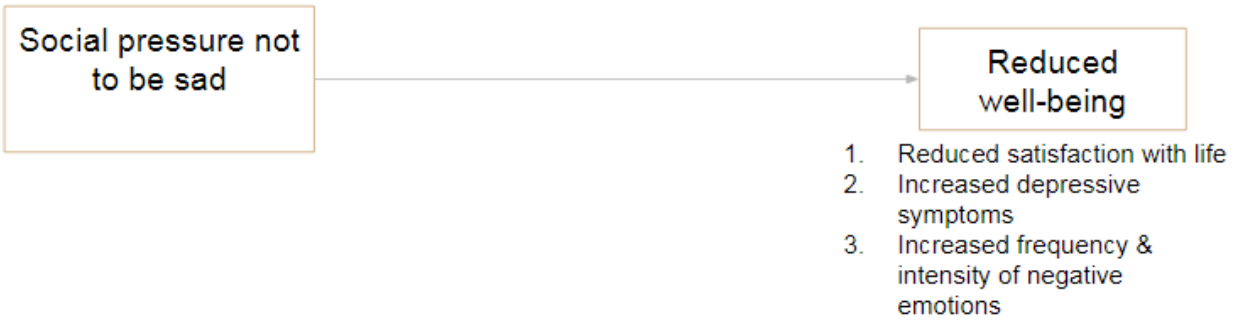

Figure 1: General model depicting the relation between social pressure not to be sad and well-being.

Clearly, social norms to experience certain emotions are culturally defined and prescribed. Previous research confirms this by documenting the important role culture plays in shaping our emotional experiences (Eid & Diener, 2001; De Vaus, Hornsey, Kuppens, & Bastian, 2017). As an example, the association between social expectancies to not feel negative emotions and well-being varies across cultures (Bastian et al., 2012), and studies have shown that there are cultural differences in regards to how often positive events are shared with others (Choi, Oishi, Shin & Suh, 2018).

Yet, surprisingly, the role of culture in the relation between these social norms and well-being has been largely understudied. Indeed, to learn more about the relation between social pressure to avoid negative feelings and reduced well-being, it would be interesting to perform a cross-country replication as well as an investigation of the individual and societal level factors affecting this relation. A cross-cultural replication would provide further evidence for the association between social pressure and reduced well-being as well as inform us about potential differences across individuals from different countries. This is particularly relevant, as this finding has been almost exclusively studied in a Western context leading to much unclarity about the role culture plays in shaping this social pressure and its relation with well-being.

Therefore, the current project aims to study the social pressure to avoid negative emotions and its relation to well-being from a cross-cultural perspective. In order to create a more comprehensive picture of the associations between social pressure and well-being, an investigation of both individual and country-level variables will be conducted. Investigating individual-level variables is relevant because social pressure to feel happy and not sad exists in society but has an effect on the well-being of individuals. Individuals internalize social expectancies and judge their emotional experiences accordingly (Bastian et al., 2012). However, studying the association between social pressure to be happy and not sad solely at an individual level would be an incomplete endeavor as social pressure arises in society. Hence, it is important to look at countrywide measures of social expectancies as well as country-wide data on well-being (e.g., depression prevalence rates or suicide rates) in order to obtain information about prevalent norms and about the severity of the overall societal impact of social pressure.

It would be interesting to extend previous research on the relation between such social pressure not to be sad and well-being by including social pressure to be happy. Previous research into this topic has mainly focused on the social pressure not to feel negative emotions and its relation to well-being (Bastian et al., 2012, 2017; Dejonckheere, Bastian, Fried, Murphy, & Kuppens, 2017). However, the social pressure to not feel sad is not the same as the social pressure to feel happy. The former endorses the absence of negative emotions and the latter promotes the presence of positive emotions, which are two different constructs. The distinction between these two constructs is supported by findings that positive and negative emotions are differentially related to life satisfaction (Kuppens, Realo, & Diener, 2008). Therefore it is important to extend research to include not only social pressure not to be sad but also social pressure to be happy.

To study the role of culture in this respect, we aim to pursue three aims (Figure 2): first, we aim to replicate the relation between social pressure to be happy and not sad and well-being on an individual and country level. We want to investigate if differences in individuals' perceived social pressure relate to their differences in well-being, and if country-level rates of social pressure relate to differences in well-being at a country level, such as prevalence rates of major depression as well as suicide rates. Second, we will investigate individual and country level variables that are associated with social pressure, such as gender, religion and individualism. Third, we plan on examining factors that change the relationship between social pressure to be happy and not sad and well-being across cultures (i.e. moderation).

Aims of the Present Study
1. Replicate the relation between social pressure to be happy and not sad and well-being on an individual and country level. 2. Investigate individual and country level variables that are associated with social pressure. 3. Examine moderating factors of social pressure to be happy and not sad and well-being on an individual and country level.

Figure 2: The three aims of the study.

To pursue these aims a cross-cultural online study with participants from 65 countries and 120 collaborators will be conducted. Due to a time constraint on our thesis, only data collected between the 01.10.2017 and the 25.12.2018 will be included in this report. Two models were developed describing how various factors influence the relationship between social pressure to be happy and not sad and well-being, one for the individual level and one for the country level. The individual level model (ILM) seeks to achieve our first aim by replicating the relation between social pressure and well-being at the individual level. Furthermore, it seeks to achieve our second

aim by investigating how gender, religion, and hedonism influence a person's social pressure to be happy and not sad. Lastly, the ILM fulfills our third and final aim by investigating the moderating influence of religiosity on the relationship between social pressure and well-being. The country level model (CLM) pursues our first aim by replicating the relation between social pressure and well-being on a country level, while taking additional country-level indicators of well-being, depression and suicide rates, into account. On a country level, we pursue our second aim by investigating the influence of social media penetration as well as the cultural variables individualism and self-expression on social pressure. Our last aim will be addressed in the CLM by looking into individualism and self-expression as moderators of the relationship between social pressure and well-being.

1.1 Replication

The first aim of the present study is to replicate the findings that social pressure to feel happy and not sad is associated with reduced well-being (Bastian et al. 2012, 2014) in a cross-cultural sample at the individual and country level.

1.1.1 Individual level replication.

At the individual level, we expect that individuals who experience a high social pressure to be happy and not sad, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions. As mentioned above, social pressure to feel happy and to not experience negative emotions has been associated with increased negative emotions, depression, loneliness, and reduced satisfaction with life (Bastian et al., 2012, 2014). This is due to individuals comparing their own emotions against these societal expectations of constant happiness. When there inevitably is a mismatch between an individual's emotional experience and the positive emotions others expect them to feel, these same non-normative negative emotions are amplified (Bastian et al., 2012).

1.1.2 Country level replication.

At a country level, we expect that countries in which the social expectancy to feel happy and not sad is comparatively high, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions. Furthermore, this study seeks to conduct a conceptual replication by investigating the effect of social pressure to be happy and not sad on national indicators of depression. Social pressure to feel happy is a salient norm, especially in Western societies. Perhaps paradoxically, according to the World Health Organization rates of major depressive disorder in Western countries are comparatively high, and suicide rates in the European Region are the highest worldwide (World Health Organization, 2015).

How individuals perceive their society to view their feelings of depression or anxiety, specifically if they feel that their depression is disapproved upon, influences their emotional experience. As mentioned above, when people perceive social pressure to be happy they experience reduced well-being and augmented depressive symptoms (Bastian et al., 2012). Furthermore, experiencing social pressure actually predicts increases in depression scores; in overall severity as well as most individual symptoms (Dejonckheere et al., 2017). The more pressure is felt to not experience negative emotions, the more likely an increase in depression is.

This mechanism is linked to the level of negative emotion a person feels. Bastian et al. (2017) found that when experiencing high levels of negative emotion, it is harder to selectively avoid negative information, which is in line with previous research that found that depressed individuals find it hard to disengage their attention from negative emotions (Donaldson, Lam & Matthews, 2007; Koster, De Lissnyder, Derakshan & De Raedt, 2011). The more depressed one is, the harder it is to shift focus from negative emotions. Perceived pressure to feel happy leads to negative self-reflection, which leads to an amplification of these negative feelings and an increase in depressive symptoms. In summary, the overemphasis of happiness and marginalization of natural negative emotions in society heightens the experience of negative emotions and actively contributes to the occurrence of depression (Dejonckheere et al., 2017). Hence, we predict that countries with high levels of social pressure will exhibit higher major depressive disorder (MDD) prevalence rates, as well as higher suicide rates.

1.2 Correlates of Social Pressure to be Happy and Not Sad

In addition to replicating the relation between social pressure and well-being, the present study will investigate correlates of social pressure to be happy and not sad. We will research three individual level correlates: gender, religion, and hedonism, as well as three country level correlates: individualism, self-expression, and social media.

1.2.1 Individual level correlates.

1.2.1.1 Gender.

To our knowledge, no research has investigated gender differences in social pressure to be happy and not sad; however, there is reason to believe these differences may exist. Literature has found gender differences in social pressure, with women experiencing more social pressure in a variety of situations. Women experience more peer pressure with regards to appearance (Helfert & Warschburger, 2013), are twice as likely as men to report feeling pressure to quit smoking (Royce, Corbett, Sorensen & Ockene, 1997), feel more time pressure (Mattingly & Sayer, 2006) and experience more social pressure in technology use (Venkatesh & Morris, 2000).

Societal expectations are internalized social ideals, norms and standards that are conveyed to us by our peers, parents, and media (Cialdini & Trost, 1998; Hasegawa, Shinohara, & Broadbent, 2007; Stice, 1994), and there are differences in what is expected from males and females. Gender-based responses to societal pressures reflect differences in social roles stemming from childhood socialization which are reinforced throughout everyday life (Gilligan, 1982; Maltz & Borker, 1982). Other explanations include women being more sensitive to social cues (Roberts, 1991; Royce et al., 1997). Gender differences in internalization behavior are also well-documented when it comes to mental disorder prevalences; women show higher rates for all internalizing disorders than men, across lifetime and 12-month prevalence rates (Eaton et al., 2012).

Considering the literature showing that in comparison to men, women experience higher levels of social pressure in a variety of domains, we expect gender differences in social pressure to be happy and not sad. In an exploratory fashion, we predict that women will experience higher social pressure to be happy and not sad than men.

1.2.1.2 Religion.

Religion plays a role in informing a practitioner's experience of positive and negative emotions. Like culture, religion also dictates what kinds of emotions we should experience and to what intensity (Kim-Pietro & Diener, 2009). In other words, religion provides a practitioner with an ideal affect framework, which has been shown to differ between religions (Tsai, Miao, and Seppala, 2007). Since religion has been proven to inform practitioners' expectations of how they should feel (Kim-Pietro & Diener, 2009), by extension, we argue it can also inform religious individuals' expectancies to be happy and not sad.

To test this we will investigate two well-studied religions that differ in the affective states they promote: Christianity and Buddhism. Several writings discuss the emphasis Christianity places on happiness (e.g., Gaskins, 1999; Griffith, 1998). Moreover, Tsai et al. (2007) found that in comparison to Buddhists, Christians place more emphasis on the experience of intense positive emotions (e.g., excitement). Additionally, intense positive emotions are more promoted in Christian religious and contemporary texts than in Buddhist religious and contemporary texts (Tsai et al., 2007). Buddhism, on the other hand, is a more contemplative religious tradition that promotes low arousal positive emotions as well as emotional moderation (Tsai et al., 2007; Watts, 1996). A study by Hornsey et al. (2018) found that holistic regions, which include predominantly Buddhist regions, aspire to maximize happiness less than other regions.

Based on the above research, we argue that religious denomination will inform practitioners' social expectancies to be happy and not sad. More specifically, we predict that individuals from a Christian religious tradition, which emphasizes the experience of intense positive emotions, will experience more social pressure to be happy than individuals from a

Buddhist religious tradition, which places less emphasis on the experience of intense positive emotions and more emphasis on emotional moderation.

1.2.1.3 Hedonism.

Hedonism refers to a lifestyle in which pleasure-seeking is the principal motivator of behavior (Veenhoven, 2003). In our study, we define hedonism as a personal value which emphasizes having pleasure, enjoying life (e.g., sex, leisure, etc.), and engaging in pleasant activities (Schwartz, 2012). From a hedonic point of view, well-being is achieved by maximizing pleasure and minimizing pain (Ryan & Deci, 2001). Following this line of thought, individuals who value hedonism are more likely to expect themselves to feel positive emotions and not feel negative emotions. Despite the obvious link between hedonism and the expectation to feel positive emotions and not feel negative emotions, to our knowledge, no research has investigated the relation between personally valuing hedonism and social pressure to be happy and not sad.

As was mentioned in the introduction, our experience of emotions is informed by our personal expectancies (how we think we should feel) and our social expectancies (how we think others think we should feel) (Bastian et al., 2012). Our personal expectancies for experiencing emotions are partially informed by our values, which are "beliefs linked inextricably to affect" (Schwartz, 2012, p. 3), and our social expectancies for experiencing emotions are informed by the cultures we live in (Bastian et al., 2012). We argue that personal expectancies (e.g., the expectation to continuously feel good because one values hedonism) can influence the social pressure an individual feels by either aggravating it or relieving it. More specifically, we predict that since individuals who value hedonism see positive, pleasurable emotions as desirable and negative, unpleasant emotions as undesirable, they will experience higher levels of social pressure to be happy and not sad.

1.2.2. Country level correlates.

1.2.2.1 Individualism.

In general, the effect of social expectancies to feel happy and not sad evoking increased negative emotional responding when failing to live up to these expectations has been found in different cultures (Bastian et al., 2012). While looking for happiness and evading sadness is a salient norm in many modern societies, there seem to be some cultural differences. In their 2012 study, Bastian et al. found that there are differences between Western and Eastern countries when it comes to the social pressure to feel happy. In Western, more individualistic countries, happiness is a basic value, and positive feelings are the most important determinant of well-being (Diener, Diener & Diener, 1995). With the search for happiness being more pronounced in Western cultures (Kuppens et al., 2008), people reflect more negatively and experience a higher increase of negative emotions after failing to meet the cultural norm (Bastian et al., 2012). This is

due to culture moderating the magnitude of these effects (Bastian et al., 2012). Culture influences what is viewed as ideal affect (Tsai, Knutson & Fung, 2006; Tsai et al., 2007), thus the social pressure to feel happy can vary between cultures.

One dimension that consistently measures fundamental differences in cultural values is individualism/collectivism (Hofstede, 2001). The dimension individualism versus collectivism describes the social framework of a country. Individualistic cultures have a loose social framework, in which individuals are assumed to take care of only themselves and immediate families (Hofstede, 2011). Freedom and individual happiness are highly valued, and positive experiences, feeling good, and avoiding negative emotions are emphasized (Realo, Koido, Ceulemans, & Allik, 2002; Elliot, Chirkov, Kim, and Sheldon, 2001). In comparison, collectivistic cultures have a tightly-knit social framework. An individual's ingroup plays a central role in life, and individuals show unquestioning loyalty towards their ingroup and are looked after by all members (Hofstede, 2011; Realo, 2003).

Earlier studies have linked Western countries to higher social pressure to feel happy and not sad (Bastian et al., 2012). As Western and individualistic countries are often used synonymously, based on these findings we expect individualism to inform the level of social pressure to be happy and not sad within countries. We predict that in more individualistic cultures the social pressure to be happy is higher than in predominantly collectivistic cultures.

1.2.2.2 Self-expression.

A second dimension that robustly measures fundamental differences in cultural values is the survival/self-expression dimension (Inglehart & Oyserman, 2004). The survival dimension is related to the socioeconomic development of a nation (Inglehart & Welzel, 2005). Survival countries are characterized by low economic and physical security, placing importance on material values over other goals, and low toleration of outgroups (Inglehart & Oyserman, 2004). Cultures high on self-expression however, show high levels of economic and physical security, which allows a climate of trust and self-expression to develop, and are very liberal (Inglehart & Baker, 2000). Self-expressive nations emphasize the importance of pleasant experiences more than survivalist countries (Kuppens et al., 2008).

We hypothesize in an exploratory fashion that the survival dimension correlates with the level of social pressure to be happy and not sad across countries, with social pressure to be happy being higher in self-expression cultures than in survival cultures.

1.2.2.3 Social media.

Social media is a collection of applications and web pages created with the intent to connect people and enable information sharing (Osborne-Gowey, 2014). Currently social media

is used by 3.2 billion people worldwide, and the number is constantly increasing (We Are Social, 2018).

With more and more people using social media platforms, research has investigated the way people portray themselves online. People tend to favor presenting themselves in a positive way, presenting their emotional well-being better than it is in real life (Reineke & Trepte, 2014; Qiu, Lin, Leung, & Tov, 2012). There are multiple techniques to skew and optimize self-presentation online, through careful editing and selection of messages and pictures in order to highlight positive attributes and present an ideal self (Chou & Edge, 2012). One is more likely to post positive emotions and success than negative emotions, struggles or failures, leading to a positivity bias in communication online (Reineke & Trepte, 2014; Qiu et al., 2012).

This positivity online could be reflecting offline social norms of feeling happy and not sad (Kuppens et al., 2008). A study by Kok, Sanen, Kuppens, Smits, and Dejonckheere (2017) investigated if happiness presented on social media actually reflects social pressure to be happy and not the happiness of a person. Although a link between expressed happiness and social expectancies to be happy was not found, neither was a relation with reported happiness level. Offline social norms are alive on social network sites and online behavior, and affect people's authentic self-presentation (McLaughlin & Vitak, 2012). And the social norm to not feel negative emotions is highly relevant in the context of social media (Kok et al., 2017).

Additionally, through the constant misrepresentation and positivity bias online, users of social media could be led to believe that others are constantly happy and are living perfect lives, which could come as a contrast to their own lives (Chou & Edge, 2012), leading to an amplification of the already strongly perceived offline norm of being happy.

Hence, the present research will explore the relationship between social media prevalence in a country and the national level of social pressure to be happy. Considering the research discussed above, in an exploratory fashion we hypothesize the following: on a country wide level, social media pervasiveness is correlated with perceived social pressure to be happy and social pressure not to be sad. People who live in countries in which social media use is more prevalent will have heightened social expectancies not to feel negative emotions and to feel positive emotions, as the social norm is experienced not only offline but also online.

1.3 Moderating Factors of the Relation between Social Pressure and Well-Being

In addition to looking into the general relation of social pressure to be happy and not sad, as well as the correlates of social pressure to be happy and not sad, the present study will investigate the moderating factors of the relation between social pressure and well-being. Studying moderating variables will shed light onto the possible mechanisms driving this relation which can aid in finding protective measures against heightened social pressure and its negative effects on well-

being. On an individual level we will investigate the role of religiosity and on a country level we will investigate the moderating role of a country's cultural values of individualism and self-expression.

1.3.1 Individual level moderators: religiosity.

Religiosity, defined here as belonging to a particular religion and finding it important in one's daily life, has long been associated with positive mental health outcomes (Koenig & Larson, 2009). More specifically, it has been associated with increased subjective well-being (Witter, Stock, Okun, & Haring, 1985), and decreased rates of depressive symptoms (Smith, McCullough, and Poll, 2003). These findings have been replicated in youths and adults of different religious denominations and different cultural and ethnic groups (McCullough & Willoughby, 2009). Hence, the link between religiosity and increased well-being is rather robust.

Several aspects of religiosity are believed to contribute to increased psychological well-being. Religions provide individuals with positive coping strategies in the face of difficult situations (McCullough & Willoughby, 2009). Examples of such strategies include: religious reappraisal of stressful events, collaborative coping, and religious surrender (McCullough & Willoughby, 2009). Such forms of religious coping have been positively associated with satisfaction with life and happiness, and negatively associated with anxiety and depression (Ano & Vasconcelles, 2005). A second aspect of religiosity that contributes to well-being is the social support network it provides for its practitioners (Joiner, Perez, & Walker, 2002). A final aspect that is believed to partially explain the relation between religiosity and well-being is its role in increasing an individual's self-regulation and self-control skills (McCullough & Willoughby, 2009). Such evidence suggests that religiosity protects individuals against stress and mental illness by providing them with strategies that promote mental health. In the present study we propose that religiosity can protect individuals from the negative effects of social pressure to be happy and not sad by giving them the coping strategies and a supportive community to deal with unwanted and socially unacceptable negative emotions.

Taking into account the robust association between religiosity and well-being as well as the many ways in which religiosity contributes to mental health and protects against anxiety and depression, we predict that the level of well-being of more religious individuals will be less affected by social pressure to be happy and not sad than that of less religious individuals.

1.3.2 Country level moderators.

As discussed above, two dimensions which consistently and robustly measure fundamental differences in cultural values are the individualism/collectivism and the survival/self-expression dimension (Hofstede, 2001; Inglehart & Oyserman, 2004). Both the Individualism and Survival dimension are related to life satisfaction across nations (Diener et al., 1995; Hofstede, 2001; Inglehart & Welzel, 2005) and moderate the relationship between the

experience of positive and negative emotions and life satisfaction (Kuppens et al., 2008). While positive and negative emotions are universally viewed as preferable or unpreferable respectively, national and cultural differences define how important these emotional experiences are to life satisfaction (Kuppens et al., 2008).

1.3.2.1 Individualism.

Individualistic nations are more sensitive to negative emotions, and negative emotions determine life satisfaction more strongly than in collectivistic nations (Kuppens et al., 2008; Suh, Diener, Oishi & Triandis, 1998). Earlier studies have found the link between social expectancies and reduced well-being to be stronger in Western countries (Bastian et al., 2012). In comparison, in collectivistic cultures personal feelings of happiness may not be required to be satisfied with life, and therefore negative experiences have a smaller impact on well-being (Kuppens et al., 2008).

While in Eastern, more collectivistic countries, expressing positive affect is less desirable, in individualistic cultures, negative emotions do not correspond to the emotional social norms, and thus have a larger impact on a person's global well-being (Kuppens et al., 2008). In individualistic cultures, happiness is valued more highly. When negative emotions are experienced, a mismatch between felt emotions and the social expectancies develops, which is rated more negatively in individualistic countries. As negative emotions have a stronger association with life satisfaction in individualistic countries, this leads to a stronger reduction in life satisfaction in cultures high on the Individualism dimension. Therefore we expect that social pressure to be happy will lead to a stronger reduction of global well-being in life satisfaction in individualistic nations.

1.3.2.2 Self-expression.

In nations valuing self-expression, positive emotional experiences are related more strongly to global well-being than in nations emphasizing survival (Kuppens et al., 2008). As suggested in the paper by Bastian et al. (2012), we will investigate the link between social pressure to be happy, well-being and the cultural dimensions of Individualism and Survival in an exploratory fashion.

As positive emotion experiences are related more strongly to global well-being than in nations emphasizing survival (Kuppens et al., 2008), we expect that social pressure to be happy and not sad will have a stronger association with reduced global well-being in self-expression nations. In cultures emphasizing self-expression, happiness is valued more highly. When negative emotions are experienced, a bigger mismatch between felt emotions and the social expectancies develops, leading to a stronger reduction in life satisfaction in cultures low on the Survival dimension.

1.4 The Present Research

The goal of the current study is to replicate the findings of Bastian et al. (2012) that indicate that social pressure to not feel negative emotions leads to reduced well-being. Additionally, the variables influencing social pressure to feel happy and not sad are investigated. Finally, it seeks to study the variables that impact the relation of social pressure and well-being. Each of these steps is done at an individual level as well as at a country level. Below, we provide a summary of the two models being tested in this study: the ILM and the CLM model. Each model includes the social pressure correlates, moderating variables, as well as a summary of the predictions.

1.4.1 Individual level model.

The ILM seeks to replicate the findings that social pressure to feel happy and not sad leads to reduced well-being (Bastian et al. 2012, 2014) at the level of the individual. As previously mentioned, we expect that individuals who experience a high social pressure to be happy and not sad, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions.

Moreover, the ILM investigates three potential correlates of social pressure to be happy and not sad: gender, religion, and hedonism. With regards to gender, the model predicts that women will experience higher levels of social pressure than men. With regards to religion, the model predicts that Christian individuals will experience higher levels of social pressure to be happy in comparison to Buddhist individuals. Lastly, with respect to hedonism, the model predicts that individuals who rate hedonism as a guiding principle of life will experience higher levels of social pressure to be happy and not sad.

Finally, the ILM proposes religiosity as a moderating variable for the relation between social pressure to be happy and not sad and well-being. Taking into account the previously discussed association between religiosity and well-being, the ILM predicts that religious individuals' level of well-being will be less affected by social pressure to be happy and not sad than non-religious individuals' level of well-being.

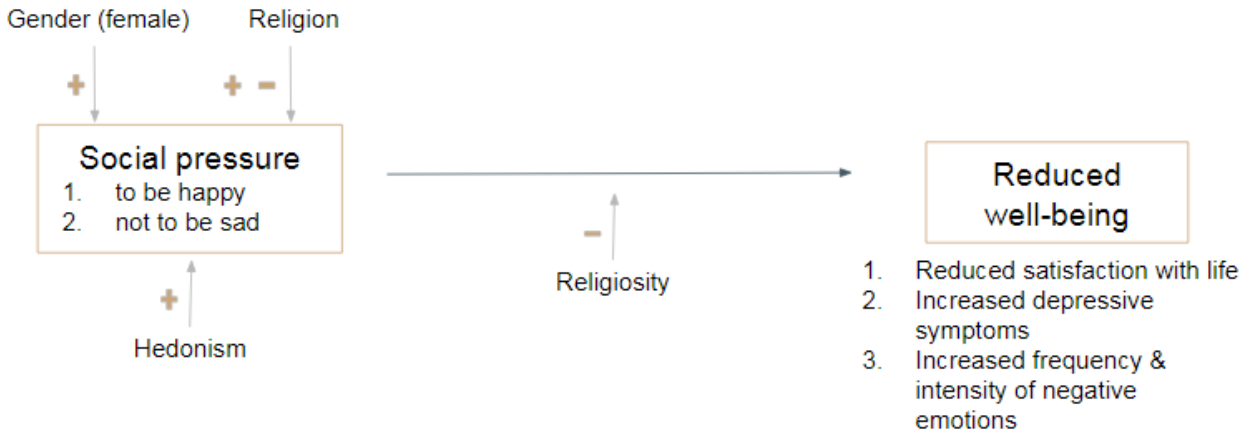

Figure 3: Individual level model depicting the relation between social pressure to be happy and not sad and well-being. Social pressure is influenced by an individual's gender, religion and level of hedonism. The relation between social pressure and well-being is moderated by the individual's level of religiosity. Global well-being is constructed of satisfaction with life, depressive symptoms, and frequency and intensity of negative emotions.

1.4.2 Individual level hypotheses.

On the basis of the literature just summarized, four hypotheses are thus formulated.

1. Higher social pressure to feel happy and not sad will lead to reduced satisfaction with life, increase in depressive symptoms, and increased frequency and intensity of negative emotions.
    a. This will be moderated by religiosity, with religious individuals experiencing increased well-being in comparison to less religious individuals.
2. Women will experience higher social pressure to be happy and not sad than men.
3. Religious denomination will influence social pressure to be happy.
    a. Individuals belonging to a Christian religious tradition will experience higher levels of social pressure to be happy than individuals belonging to a Buddhist religious tradition.
4. Individuals who value hedonism will experience higher social pressure to be happy and not sad.

1.4.3 Country level model.

The present study should replicate the findings that social pressure to feel happy and not sad leads to reduced well-being (Bastian et al. 2012, 2014) on a country level. Therefore, we expect that countries in which the social expectancy to feel happy is comparatively high, will have reduced satisfaction with life scores, increased depressive symptoms, and increased frequency and intensity of negative emotions. Reduced well-being will be further conceptualized by adding

national indicators of depression. Congruent with the results of previous studies that found that social pressure predicts depressive symptoms (Dejonckheere et al., 2017) we predict that countries with high levels of social pressure will exhibit higher major depressive disorder (MDD) prevalence rates, as well as higher suicide rates.

Furthermore, the CLM examines variables that correlate with country-level social pressure: individualism, self-expression and social media. The model predicts that in individualistic cultures the social pressure to be happy is higher than in collectivistic cultures. In an exploratory fashion, we hypothesize that in self-expression cultures the social pressure to be happy will be higher than in survival cultures. Additionally, regarding the effect of social media, we hypothesize that social media pervasiveness is correlated with perceived social pressure to be happy.

Lastly, variables moderating the relation between social pressure to be happy and not sad are investigated. The CLM model expects that higher social pressure to be happy will lead to a stronger reduction of global well-being in individualistic nations, as well as in self-expression nations.

Figure 4: Country level model depicting the relation between social pressure to be happy and not sad and well-being. Social pressure is influenced by a nation's level of individualism, self-expression and social media use. The relation between social pressure and well-being is moderated by a nation's level of individualism and self-expression. Global well-being is constructed by nation averages satisfaction with life, depressive symptoms, frequency and intensity of negative emotions, and their depression and suicide rate.

1.4.4 Country level hypotheses.

On the basis of the literature just summarized, four hypotheses are formulated.

1. Countries with higher levels of social pressure to feel happy and not sad will have reduced satisfaction with life scores, increased depression scores, increased suicide rates and increased frequency and intensity of negative emotions scores.
    a. This will be moderated by individualism scores, with higher scores leading to higher levels of reduced well-being.
    b. This will be moderated by self-expression scores, with higher scores leading to higher levels of reduced well-being.
2. In individualistic countries the social pressure to be happy and not sad will be higher than in collectivistic countries.
3. In countries with high self-expression scores, the social pressure to be happy and not sad will be higher than in countries with high survival scores.
4. Countries with higher rates of social media use will have higher levels of social pressure to feel happy and not sad.

2. Method

2.1 Participants

After the procedure was approved by a local ethics committee at each collaboration site, the participants were recruited. Participants are first year psychology students recruited in the university environment, and receive course credit for their studies at most collaboration sites. Data collected from the collaboration sites between the 1.10.2017 and the 25.12.2018 will be included in the analysis. Collaborators were asked to recruit a minimum of 100 participants. This was done in order to find a balance between having enough power for individual country analyses while at the same time asking for a feasible effort from collaborators. A post-hoc power analysis will be conducted.

2.2. Materials and Procedure

After filling out an informed consent form, participants are provided with 1 questionnaire with 17 sub-sections regarding social expectancies, life satisfaction, emotions, and illness, amongst others, as well as asked for demographic information. The questionnaires are distributed through the preferred means of each collaborator, including online via the experience management company Qualtrics (2002), starting October 2017. At the beginning of each questionnaire participants are given the corresponding instructions and answering scale for the following measure. For the present study, only a selection of the administered questionnaires are relevant. They are listed in detail below, as well as the additional country level measures used in our analyses.

Questionnaires are distributed in the respective national language of each country. When validated translations are not available, the given questionnaire is translated into the native language (and back-translated by some but not all collaborators). It is ensured that the translation captures the original meaning of the items.

The theoretical background, method, and code for the statistical analysis were pre-registered at the Open Science Framework in early December 2018. Data will not be viewed prior to the stopping date for data collection for this project (25.12.2018).

2.2.1 Individual-level measures.

2.2.1.1 Social Expectancies about Depression and Anxiety Scale (SEDAS).

Social pressure to not be sad as well as social pressure to be happy are measured by the Social Expectancies about Depression and Anxiety Scale (SEDAS; Bastian, Dejonckheere, & Kuppens, in preparation). The SEDAS measures an individual's perception of how society in general views different emotional states such as depression, anxiety, but also happiness. Participants are asked to indicate the extent to which they agree with the statement on a scale from 1 (*Strongly Disagree)* to 9 (*Strongly Agree)*. 13 items measure the perceived expectancies of society not to feel sad and depressed (e.g. "Society generally expects people NOT to feel depressed or anxious"), of which 4 items are reversed (e.g. "I think it is socially acceptable to feel depressed or anxious") and have to be recoded before analysis. 9 items measure the perceived pressure to feel happy (e.g. "People in my society view people who feel happy as more valuable"). Social pressure to be happy and not to be sad are two separate dependent variables that will be analyzed as such. The average Cronbach's alpha for social pressure to be happy and social pressure not to be sad will be calculated.

2.2.1.2 Psychological Well-being.

Individual psychological well-being is determined by multiple measures: life satisfaction, depressive symptoms, and frequency and intensity of negative emotions.

2.2.1.2.1 Satisfaction With Life Scale (SWLS).

Life satisfaction is assessed with the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985). Individuals indicate on a scale from 1 (*Strongly Disagree)* to 7 (*Strongly Agree)* how much they agree with 5 items (e.g. "If I could live my life over, I would change almost nothing"). The average Cronbach's alpha for life satisfaction will be calculated.

2.2.1.2.2 Depression Anxiety Stress Scale (DASS).

Individual's depressive symptoms are measured with a 21-item version of the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995a). Participants have to indicate on a scale of 0 (*Did not apply to me at all)* to 3 (*Applied to me very much, or most of the time)* to what degree each statement (e.g. "I found it difficult to work up the initiative to do things") applied to them over the past week. Only the Depression scale (7 items) was included in our analyses, as the criterion of interest is depression. The average Cronbach's alpha for the Depression scale will be calculated.

2.2.1.2.3 Frequency and Intensity of Negative Emotions.

Frequency and intensity of negative emotions is determined by asking participants to indicate how often (*1 = None of the time; 9 = All of the time)* and how intensely (*1 = Very mild; 9 = Very intense)* they experienced a list of 4 negative emotions (anxious, depressed, stressed, and sad). The list of emotions covers both high arousal (anxious, stressed) and low arousal (depressed, sad) emotions. Emotions were chosen based on similar measures used in previous studies (Bastian et al., 2012; 2014). The average Cronbach's alpha for the frequency and intensity of negative emotions will be calculated.

***2.2.1.3 Schwartz Value Survey (Hedonism*).**

The value individuals place on hedonism is measured by the Schwartz Value Survey which asks participants to rate the personal importance of ten values, one of which is hedonism, on a 9 point scale ranging from 7 (*of supreme importance*) to -1 (*opposed to my values*) (Schwartz, 2012). Hedonism is defined as "to have pleasure, enjoy life (food, sex, leisure, etc.) and to do pleasant things".

2.2.1.4 Religious denomination and Religiosity.

Religious denomination is measured by two items, asking participants to indicate whether or not they follow a religion, and if yes, which religion they follow ("Do you follow a religion? If so, please write in your religion below. If not, please write 'N/A'"). Religiosity is determined by asking participants how important religion is to them on a scale of 1 (*not at all important*) to 7 (*extremely important*) ("If you do follow a religion, how important is that religion in your daily life?").

2.2.1.5 Other Demographics.

Each participant is asked to indicate their gender on the Demographics survey by choosing one of three options: male, female, and other.

2.2.2 Country-level measures.

2.2.2.1 Social Expectancies about Depression and Anxiety Scale (SEDAS).

Country-level social pressure to be happy and social pressure to not be sad is measured by averaging the individual SEDAS scores per country (see 2.2.1.1).

2.2.2.2 Psychological Well-being.

Country psychological well-being is determined by multiple measures: life satisfaction, depressive symptoms, frequency and intensity of negative emotions as well as national depression and suicide prevalence rates.

2.2.2.2.1 Life Satisfaction, Depression Anxiety Stress Scale & Frequency and Intensity of Negative Emotions.

Country-level life satisfaction, depressive symptoms, and frequency and intensity of negative emotions are measured by averaging the individual SWL, DASS, and Frequency and Intensity of Negative emotions scores per country (see 2.2.1.2.1 - 2.2.1.2.3).

2.2.2.2.2 National Prevalence for Major Depressive Disorder (MDD).

National prevalence for Major Depressive Disorder (MDD) are taken from the Global Health Data Exchange (2016).

2.2.2.2.3 National Prevalence of Suicide.

Suicide rates are taken from the WHO (2015). The rates were reported as the number of people who committed suicide per 100,000.

2.2.2.3 Index of Individualism by Hofstede.

A nation's level of individualism is assessed with the Index of Individualism by Hofstede (Hofstede Insights, 2018), with 0 being most collectivistic and 100 being most individualistic.

2.2.2.4 World Values Survey variable of self-expression.

A nation's level of survival/self-expression is assessed based on the Emancipative Values Index (culture map version, Welzel, 2013), a conceptual refinement of Inglehart and Welzel's (2005) variable of self-expression. Scores are based on a factor analysis on data from the World Values Surveys (Inglehart et al., 2014) including all countries and time points. Factor scores represent negative and positive deviations from the zero-mean.

2.2.2.5 Social media.

Social media penetration per country is gathered from We Are Social's 2018 index. Social media penetration measures the percentage of monthly active accounts on the top social network in each country, compared to population.

2.3 Analysis

2.3.1 Prep of Data.

The data analysis will be conducted using the statistical computing program R. To prepare the data for the analysis, the questionnaire data from all countries will be read into R. In order to facilitate data analysis, each of the countries' files will be reduced to contain only the variables included in our analyses: the SEDAS items measuring social pressure to not be sad, the SEDAS items measuring social pressure to be happy, the SWL scores, DAAS items, intensity and frequency of negative emotions, hedonism scores, as well as the demographics. Four items from the SEDAS have to be recoded. Furthermore, gender will be re-coded as female (1) and male (0). The category "other" will not be taken into account because no specific hypotheses were formulated regarding this particular group. Hence, "other (3)" will be re-coded as NA (not applicable). Dummy variables for the religious denominations Buddhist and Christian were constructed. Other religious denominations may be taken into account for unregistered exploratory analyses later.

Next, the country level variables from external sources will be read into R. Once all the required data is in R, we will combine them into one dataset, while clearly labelling which data point comes from which country.

2.3.2 Descriptive Analyses.

Once the data has been prepared successfully, we will start with computing averages on the individual and country level. First, individual composite scores for each participant will be calculated for the variables: social pressure to be happy, social pressure to not be sad, satisfaction with life, depression, and intensity and frequency of negative emotions, creating the individual-level variables. For all but depression, the composite score is calculated by averaging across all items. The composite depression score is calculated by summing across all items and multiplying the score by two (Lovibond & Lovibond, 1995b). Next, these variables will also be averaged per country, creating the country-level variables. Missings will not be imputed. We will then center the individual data points per country by subtracting per variable the respective country mean of that variable from each individual's score. All following calculations and analyses will be

performed using centered variables. Additionally, for each country the standard deviation of each measure will be computed.

General descriptives for each measure will be reported. These include the overall average across countries of each variable, as well as their standard deviations, the correlations across all measures, and intraclass correlation coefficients within and between countries. Finally, meaningful graphs (e.g., line/scatter graphs depicting correlations, histograms depicting group differences, etc.) of the data will be plotted to visualize the data.

2.3.3 Aim 1: Replication at Individual and Country Level.

2.3.3.1 Individual level.

We hypothesize that in individuals, both higher social pressure to feel happy and higher social pressure to be not sad will be associated with reduced satisfaction with life, increase in depressive symptoms, and increased frequency and intensity of negative emotions. We will analyze this by using random intercept and slope multilevel models with individuals (Level 1) nested within countries (Level 2), social pressure to be happy and social pressure to not be sad as the predictors and each well-being variable as a criterion separately. Psychological well-being is comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 < 0$$
$$Well - being_{ij} = \beta_{0j} + \beta_{1j} Social\ Pressure_{ij} + \epsilon_{ij}$$

2.3.3.1 Country level.

We hypothesize that countries with higher levels of both social pressure to feel happy and social pressure not to be sad will have reduced satisfaction with life scores, increased depression scores, increased suicide rates and increased frequency and intensity of negative emotions scores. This hypothesis will be analyzed by using a simple linear regression model with social pressure to not be sad and social pressure to be happy as the predictors and well-being as the criterion. Country-level well-being is measured by life satisfaction, depressive symptoms, frequency and intensity of negative emotions as well as national depression and suicide prevalence rates.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 < 0$$
$$Well - being_j = \beta_0 + \beta_1 Social\ Pressure_j + \epsilon_j$$

2.3.4 Aim 2: Correlates of Social Pressure to be Happy and Not Sad.

2.3.4.1 Individual-level correlates.

We hypothesize that gender, religious denomination and hedonism correlate with individual levels of social pressure to be happy and social pressure to not be sad. Each correlate will be analyzed as the predictor in a separate random intercept and slope multilevel model with individuals (Level 1) nested within countries (Level 2) and with social pressure to be happy and social pressure to not be sad as the criterions.

2.3.4.1.1 Gender.

We predict that women will experience higher social pressure to be happy and higher social pressure to not be sad than men. Gender will be treated as a categorical predictor with two levels: male and female with female being 1 and male being 0.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 > 0$$
$$Social\ Pressure_{ij} = \beta_{0j} + \beta_{1j} Gender_{ij} + \epsilon_{ij}$$

2.3.4.1.2 Religious Denomination.

We predict that individuals belonging to a Christian religious tradition will experience higher levels of social pressure to be happy than Buddhists. In an exploratory fashion, we predict that individuals belonging to a Christian religious tradition will experience higher levels of social pressure to not be sad than Buddhists. Dummy variables for all religious denominations will be created on the basis of participants' responses to the open question on religious denomination. Only Christian and Buddhist religious denominations will be taken into account for the analysis, with Christian being 1 and Buddhist being 0. However, if a sufficiently large sample of other religious denominations are collected they will be investigated in an exploratory fashion.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 > 0$$
$$Social\ Pressure_{ij} = \beta_{0j} + \beta_{1j} ReligiousDenomination_{ij} + \epsilon_{ij}$$

2.3.4.1.3 Hedonism.

We hypothesize that individuals who value hedonism will experience higher social pressure to be happy and higher social pressure to not be sad.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 > 0$$

$$Social\ Pressure_{ij} = \beta_{0j} + \beta_{1j} Hedonism_{ij} + \epsilon_{ij}$$

2.3.4.1.4 Exploratory model.

If more than one of these individual-level correlates reaches significance, they will be included in an exploratory multilevel model, to test the relative influence of the predictors on social pressure.

2.3.4.2 Country-level correlates.

We hypothesize that individualism, self-expression, and social media will correlate with country levels of social pressure to be happy and social pressure to not be sad. Each variable will be analyzed as a predictor with separate random intercept multilevel models with individuals (Level 1) nested within countries (Level 2) and social pressure to be happy and social pressure to not be sad as criterions.

2.3.4.2.1 Individualism.

We predict that in individualistic countries the social pressure to be happy and social pressure not to be sad will be higher than in collectivistic countries.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 > 0$$
$$Social\ Pressure_{ij} = \beta_{0j} + \beta_1 Individualism_j + \epsilon_{ij}$$

2.3.4.2.2 Self-expression.

In countries with high self-expression scores, the social pressure to be happy and not to be sad will be higher than in countries with high survival scores.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 > 0$$
$$Social\ Pressure_{ij} = \beta_{0j} + \beta_1 Self - expression_j + \epsilon_{ij}$$

2.3.4.2.3 Social media.

Countries with higher rates of social media use will have higher levels of social pressure to feel happy and higher levels of social pressure to not feel sad.

$$H_0: \beta_1 = 0$$
$$H_1: \beta_1 > 0$$

$$Social\ Pressure_{ij} = \beta_{0j} + \beta_1 Social\ Media_j + \epsilon_{ij}$$

2.3.4.2.4 Exploratory model.

If more than one of these country-level correlates reaches significance, they will be included in an exploratory multilevel model, to test the relative influence of the predictors on social pressure.

2.3.5 Aim 3: Moderating Factors of the Relation between Social Pressure and Well-Being.

2.3.5.1 Individual-level moderating factors.

2.3.5.1.1 Religiosity.

We hypothesize that in individuals, the relationship between social pressure to be happy as well as social pressure to not be sad and well-being will be moderated by religiosity. Specifically, we predict that religious individuals who find religion important for their daily life, experience increased well-being in comparison to individuals who find religion less important for their daily life. We will analyze this by using random intercept and slope multilevel models with individuals (Level 1) nested within countries (Level 2), social pressure to be happy, social pressure to not be sad and religiosity as the predictors and well-being as the criterion. Psychological well-being is comprised of life satisfaction, depressive symptoms and frequency and intensity of negative emotions. Furthermore, a model with moderator, without moderator and without moderator or religiosity will be compared to determine which model fits the data best.

$$H_0: \beta_3 = 0$$
$$H_1: \beta_3 > 0$$

$$Well-being_{ij} = \beta_{0j} + \beta_{1j} Social\ Pressure_{ij} + \beta_{2j} Religiosity_{ij} + \beta_3 (Social\ Pressure_{ij} * Religiosity_{ij}) + \epsilon_{ij}$$

2.3.5.2 Country-level moderating factors.

2.3.5.2.1 Individualism.

We hypothesize that on a country level, the relationship between social pressure to be happy and social pressure to not be sad and well-being will be moderated by individualism scores. We predict that countries with higher individualism scores will have even higher levels of reduced well-being compared to countries with lower individualism scores. We will analyze this by using a random intercept model with individuals (Level 1) nested within countries (Level 2) once with

social pressure to be happy and individualism as predictors, an interaction between social pressure and individualism, and well-being as the criterion and once with social pressure to not be sad and individualism as predictors, an interaction between social pressure and individualism and well-being as criterion. Psychological well-being is comprised of life satisfaction, depressive symptoms, frequency and intensity of negative emotions, as well as national depression and suicide prevalence rates. Furthermore, a model with moderator, without moderator and without moderator or individualism will be compared to determine which model fits the data best.

$$H_0: \beta_3 = 0$$
$$H_1: \ \beta_3 < 0$$

For life satisfaction, depressive symptoms, frequency and intensity of negative emotions:

$$Well - being_{ij} = \beta_{0j} + \beta_1 Social\ Pressure_{ij} + \beta_2 Individualism_j + \beta_3 (Social\ Pressure_{ij} * Individualism_j) + \epsilon_{ij}$$

For depression and suicide prevalence:

$$Well - being_j = \beta_{0j} + \beta_1 Social\ Pressure_{ij} + \beta_2 Individualism_j + \beta_3 (Social\ Pressure_{ij} * Individualism_j) + \epsilon_{ij}$$

2.3.5.2.2 Self-expression.

We hypothesize that on a country-level, the relationship between social pressure to be happy as well as social pressure to not be sad and well-being will be moderated by self-expression scores. We predict that countries with higher scores in self-expression have higher levels of reduced well-being in comparison to countries with low levels of self-expression. We will analyze this by doing a multiple linear regression once with social pressure to be happy and self-expression as predictors, an interaction between social pressure and self-expression, and well-being as the criterion and once with social pressure to not be sad and self-expression as predictors, an interaction between social pressure and self-expression, and well-being as criterion. Psychological well-being is comprised of life satisfaction, depressive symptoms, frequency and intensity of negative emotions, as well as national depression and suicide prevalence rates. Furthermore, a model with moderator, without moderator and without moderator or self-expression will be compared to determine which model fits the data best.

$$H_0: \beta_3 = 0$$
$$H_1: \ \beta_3 < 0$$

For life satisfaction, depressive symptoms, frequency and intensity of negative emotions:

$$Well - being_{ij} = \beta_{0j} + \beta_1 Social\ Pressure_{ij} + \beta_2 Self - expression_j + \beta_3 (Social\ Pressure_{ij} * Self - expression_j) + \epsilon_{ij}$$

For depression and suicide prevalence:

$$Well - being_j = \beta_{0j} + \beta_1 Social\ Pressure_{ij} + \beta_2 Self - expression_j$$

$$+\beta_3(Social\ Pressure_{ij} * Self - expression_j) + \epsilon_{ij}$$

2.3.5.2.3 Exploratory model.

If more than one of these country-level moderators reaches significance, they will be included in an exploratory multilevel model, to test the relative influence of the predictors on social pressure.

2.3.6 A Note on Effect Sizes.

Although there is no consensus on how to consider effect sizes when using multilevel models (Rights & Sterba, 2018), we will examine how to report valid and meaningful effect sizes for each analysis.

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