The phenomenon of emotional processing was identified by Rachman (1980) who defined it as a process involving the absorption of emotional disturbances and their decline to the extent that other experiences and behaviour could proceed without disruption. Emotional processing encompasses various processes such as monitoring, processing, regulating and absorbing emotions. For example, initial sadness following an argument that had caused distress decays after some time. Rachman suggested that although people in most situations deal with distressing life events successfully, sometimes they fail to process emotional disturbances. Manifestations of this failure to absorb or process disturbances include crying, nightmares, restlessness and preoccupation with thoughts and memories. The ability to effectively process and monitor emotions has been found to be important for both mental and physical well-being, with research emphasising the negative impact of excessive emotional regulation (e.g., Guo-Ming & Biao, 2012). For example, Baker, Holloway, Thomas, Thomas, and Owens (2004) found that people who were experiencing panic disorder suppressed emotional experience and had more difficulties identifying emotions compared to a control group. Similarly, the suppression of emotional responses has been found to be associated with increased heart rate (Campbell-Sills, Barlow, Brown, & Hofmann, 2006) and related to fibromyalgia, inflammatory bowel disease and cancer onset and progression (Brosschot & Aarsse, 2001; Gross 1989; Verissimo, Mota-Cardosa, & Taylor, 1998). However, there has been little research into potential cross-cultural differences in the ability to effectively process emotions, which is somewhat surprising because culture can shape people’s emotional lives (Wierzbicka, 1999).

To assess emotional processing, Baker and colleagues (Baker et al., 2010; Baker et al., 2012; Baker, Thomas, Thomas, & Owens, 2007) devised the Emotional Processing Scale, a 25-item self-report scale (EPS-25). The measure has proven reliable and effective in distinguishing between people that can and cannot process emotions effectively. It has been translated into 13 languages and validated in the UK, Japan and Italy (Santonastaso, 2011), suggesting that the phenomenon is robust.

Although human emotions and the absorption of negative life events are universal (Riaz & Khan, 2012), cultural differences have been found in the categorisation of emotions (see Russell, 1991, for a review). Moreover, the extent to which people express and reflect upon their feelings can differ among cultures (Wierzbicka, 1999).
Trompenaars and Hampden-Turner (1998) showed that the extent to which people from 49 different countries expressed their feelings if they were upset about something at work varied. For example, Japanese participants were least likely to show their emotions openly (80% kept their feelings to themselves) and 45% of English participants would not share their feelings with others. These findings emphasise the influence of culture on the expression of emotion.

There might be a difference in emotional expression between Eastern and Western European cultures (Poland and Britain), a suggestion based on a comparison of Polish and Anglo-American cultures in terms of expressing and suppressing emotions (Wierzbicka, 1999). Wierzbicka suggests that different ‘cultural scripts’ can explain the differences in suppressing and controlling emotions between cultures. For example, the ‘cultural script’ of sincerity (presenting one’s feelings truthfully) is highly valued in Poland, whereas in Britain politeness and not hurting the feelings of others takes precedence over expressing negative feelings. The latter behaviour might appear insincere to Polish people, whereas the former behaviour might appear rude or insensitive to British people.

Baker (2007) argued that the regulation of emotion was a healthy part of human development and should not be too controlled or uncontrolled. However, the boundaries for what is acceptable in terms of the control of emotions can be influenced by culture (Wierzbicka, 1999). Describing and understanding the impact of culture on the expression of emotion is crucial to identifying differences in processing disturbing feelings and dealing with the consequences of those feelings.

It seems feasible that not processing emotions effectively and suppressing emotions could impair the ability to deal with social problems. For example, if a person ruminates excessively about an event, this may impair their ability to focus on other aspects of their life. Siu and Shek (2009) found that unprocessed emotions can lead to problems in social problem-solving, emphasising the potentially-important interplay between emotional processing and social problem-solving and the impact of these constructs on mental well-being.

Social problem-solving is the process of discovering and applying adaptive ways of dealing effectively with stressful situations and events encountered in everyday life (D’Zurilla & Nezu, 2007). According to D’Zurilla and Nezu (1999), social problem-solving comprises two elements: problem-solving style and problem orientation. Problem orientation is a set of relatively stable schemata that represent beliefs, attitudes and emotional reactions to social problems. There are two types of problem orientation: positive and negative. Positive problem orientation, which is associated with more effective problem-solving, is characterised as perceiving problems as challenges and believing them to be solvable. Negative problem orientation, which is associated with ineffective problem-solving, is characterised as perceiving problems as threats, doubting one’s ability to solve problems and experiencing emotional distress when confronted with problems. Problem-solving style refers to the core activities associated with attempting to cope with social problems (D’Zurilla & Nezu, 1999). There are three problem-solving styles: rational, which is adaptive, and impulsive/careless, and avoidance, which are maladaptive. The rational style involves gathering facts about problems, identifying obstacles and ways of overcoming those obstacles, and devising and implementing effective solution plans. The impulsive/careless style involves a narrow and incomplete evaluation of problems and ways of solving problems. The avoidance style involves waiting for problems to be resolved rather than trying to solve them.

Research into social problem-solving has yielded some interesting findings. For example, McMurran, Nezu, and Maguth-Nezu (2008) found that deficits in social problem-solving originated from the social environment (e.g., intimate relationships) or the person (e.g., conflict of goals), and that failure to process negative emotions was a factor that led to deficits. Moreover, social problem-solving ability has been found to influence how people adjust their perceptions of health and physical symptoms, secondary health complications, health compromising behaviours, and adherence to medical regimens (Dreer et al., 2009). Similarly, interventions targeting social problem-solving abilities can be effective at minimising psychological distress (Elliot & Shewchuk, 2003). For example, Cameron, Shin, Williams, and Stewart (2004) found that emotional tension among family carer-givers of people with advanced cancer decreased following a social problem-solving intervention. Therefore, it seems plausible that emotional processing deficits might be linked to social problem-solving deficits. To date, no studies have examined the relationship between social problem-solving and emotional processing. However, it is important to know whether any link exists to determine the applicability of emotional processing beyond mental disorders to the normal functioning of healthy individuals.

The present study sought to begin to address this important subject by examining whether emotional processing and social problem-solving differs between two European cultures: Western (British) and Eastern (Polish). Based on the work of Wierzbicka (1999), it seems plausible that Polish people process emotions differently to British people. Whilst no research has examined possible cross-cultural differences in social problem-solving, it is interesting to see whether this facet of mental well-being is influenced by culture.

In the present study, Polish and British participants completed the EPS-25 (Baker et al., 2007) and a questionnaire assessing social problem-solving (Social Problem Solving Inventory-Revised; SPISI-R:S) (D’Zurilla, Nezu, & Maydeu-Olivares, 2002). The study sought to test three hypotheses. One, consistent with Wierzbicka’s (1999) research, emotional processing will differ between British and Polish participants. Two, following Siu and Shek’s (2009) research, better emotional processing will be associated with better social problem-solving. Three, social problem-solving will differ between Polish and British participants.
Method

Design

A between-groups, mixed, quasi-experimental and survey design was used, with one quasi-factor (nationality: British or Polish) and two dependent measures (subscale and total scores on the EPS-25 and SPSI-R:S).

Participants

There were two opportunistic samples: British (n = 81) and Polish (n = 91). Both samples consisted of students in full-time education, aged 18-38 years (M = 21.45, SD = 2.72), who participated voluntarily and for no reward. The British sample comprised 64 females and 17 males, aged 19-38 (M = 22.07, SD = 3.22) years. The Polish sample comprised 62 females and 29 males, aged 18-36 (M = 22.90, SD = 3.05) years. The British sample was recruited from Bournemouth University (United Kingdom) via targeted advertising and comprised undergraduate students from various courses. The Polish sample was recruited via targeted advertising and comprised undergraduate students from various university courses in Poland. All participants (N = 172) completed the questionnaire on paper.

Materials

Emotional Processing Scale (EPS-25)

Two language versions of the scale were used: English and Polish. The Polish version was validated. A simultaneous confirmatory factor analysis revealed that the models of the Polish and British versions of the scale did not differ significantly, X^2(232, N = 172) = 262.51, p = .082 (two-tailed), RMSEA = .058. This finding suggests that the scale had cross-cultural equivalence. The scale contains 25 items and assesses the ability to solve social problems in everyday life in various settings (Dreer et al., 2009) and has proven effective in establishing how people attempt to resolve stressful situations (D’Zurilla & Nezu, 2007). It comprises five subscales, each with five questions: positive problem orientation (constructive mindset wherein problems are perceived as challenges); negative problem orientation (dysfunctional mindset wherein problems are perceived as threats); rational problem solving (application of adaptive techniques); impulsivity/careless style (application of narrow and incomplete techniques); avoidance style (avoidance of problems). Responding entails rating each item on a 5-point Likert scale (0 = not at all true of me; 4 = extremely true of me) (Maydeu-Olivares & D’Zurilla, 1996). The subscale scores are calculated by summing the scores on the questions within each subscale. The total score is calculated by dividing the scores on each subscale by five. Higher scores are indicative of better social problem-solving. In the present study, the SPSI-R:S was found to be reliable overall for the British (Cronbach’s α = .73) and Polish samples (Cronbach’s α = .71), with all of its subscales exhibiting good reliability (Cronbach’s α > .70).

Procedure

After being briefed and consenting to participate, participants completed the survey packet which comprised a background information sheet (e.g., age, sex) followed by the EPS-25 and the SPSI-R:S. There was no time limit for completion of the survey packet. After participants had completed the survey packet, they were debriefed and thanked for their participation.

Results

Hypothesis 1: Cultural Differences in Emotional Processing

Table 1 contains basic descriptive statistics of EPS-25 total and subscale scores per nationality. Table 1 indicates that mean total EPS scores were close for both nationalities, as were mean scores on the suppression, unregulated emotion, and avoidance subscales. However, mean scores on the signs of unprocessed emotion and impoverished emotional experience subscales were less close, with British participants scoring higher on the former subscale and Polish participants scoring higher on the latter subscale. (see Table 1)
A one-factor (nationality) independent-samples multivariate analysis of variance (MANOVA) was conducted to test the first hypothesis. The MANOVA indicated that there were no significant multivariate effect: Hotelling’s Trace = .028, $F(5,166) = .943, p = .455, \eta^2 = .028$, with none of the subscales differing between the samples ($F$s < 2.5, ps > .10, $\eta^2$s < .01). These findings refute the first hypothesis.

Hypothesis 2: Relationship Between Emotional Processing and Social Problem-Solving

Table 2 contains basic descriptive statistics of the SPSI-R:S total and subscale scores per nationality. It indicates that mean total scores were higher for Polish participants, as were mean scores on all subscales except the avoidance style subscale where British participants scored higher.

Scores on the EPS-25 and the SPSI-R:S were transformed to z-scores to account for the difference in the number of response options on each scale (EPS-25: 0 to 9; SPSI-R:S: 0 to 4). The second hypothesis was tested using Pearson’s r correlation analysis on the z-scores. This test revealed a moderate negative correlation between emotional processing and social problem-solving, $r(172) = -.33, p < .005$ (one-tailed). As higher scores on the EPS indicate poorer emotional processing (e.g., Baker et al., 2007) whereas higher scores on the SPSI-R:S indicate better social problem-solving (D’Zurilla et al., 2002), the present negative correlation supports the hypothesis that better emotional processing is associated with better social problem-solving.

Further analyses revealed that z-scores on the EPS and SPS were weakly negatively correlated among the British sample, $r(81) = .17, p = .129$ (two-tailed), but moderately negatively correlated among the Polish sample, $r(91) = -.46, p < .001$ (two-tailed). These findings suggest that there was a stronger relationship between the constructs among Polish participants.

Hypothesis 3: Cultural Differences in Social Problem-Solving

A one-factor MANOVA on total scores on the SPSI-R:S yielded a significant multivariate effect: Hotelling’s Trace = .221, $F(5,166) = 7.347, p < .001, \eta^2 = .181$. There were significant main effects on the positive
problem orientation subscale, the rational problem solving subscale and the avoidance style subscale ($F_{S} < 1.2$, $p > .04$, $\eta^2_s < .01$), with Polish participants scoring higher on the positive problem orientation and rational problem solving subscales and lower on the avoidance style subscale. These findings support the third hypothesis. However, there was no support for the hypothesis for the negative orientation subscale and the impulsive/careless style subscale, as the main effects were not significant ($F_{S} < 1.8$, $p > .10$, $\eta^2_s < .01$).

**Discussion**

This study sought to examine cross-cultural differences in emotional processing and social problem-solving, and the relationship between emotional processing and social problem-solving. There was no evidence of emotional processing differing between an Eastern and a Western European culture, a finding that refutes the first hypothesis and does not support Wierzbicka’s (1999) claim that there are differences in typical ways of expressing and processing emotions between British and Polish people. A possible explanation for the finding is that only a specific population was sampled in the present study (students). Nowadays, students in both countries are exposed to the same mass media, especially the Internet. Mass media arguably provide norms about how to live one’s life and how to behave in certain situations. Perhaps the impact of international mass media has been so great that the differences in ‘cultural scripts’ (Wierzbicka, 1999) have diminished? It would be useful to know whether cross-cultural differences exist among older adults that grew up without the Internet, for example. Therefore, emotional processing should be assessed among older age groups in future research. Importantly, given the present finding, it seems plausible that psychotherapeutic interventions based on emotional processing (Rachman, 1980) should be equally successful for both Polish and British people and might not differ according to nationality and culture.

There was evidence of a relationship between emotional processing and social problem-solving regardless of nationality. This finding supports the hypothesis that better emotional processing is associated with better social problem-solving. Moreover, the finding supports Siu and Shek’s (2009) research that suppressing emotions can lead to problems with solving social dilemmas, and elucidates the relationship between emotional processing and social problem-solving. Practically, it is useful to know whether such a relationship exists because it shows that deficits in one domain can transfer to the other domain: if someone has problems dealing with dilemmas in life, they are also likely to have problems with absorbing negative life disturbances. The present study suggests that successful psychotherapeutic interventions should take both deficits into account to provide a more comprehensive approach to mental health. Future research should focus on investigating the relationship between social problem-solving and emotional processing further; for example, among other participant populations across and within cultures.

There was some support for the third hypothesis as social problem-solving differed according to nationality: Polish participants scored higher on the SPSI-R:S overall and on the positive problem orientation, rational problem solving and avoidance style subscales. This finding suggests that relative to British people, Polish people tend to perceive social problems more as challenges than threats (positive problem orientation), employ more adaptive solution techniques (rational problem solving) and avoid social problems less (avoidance style). Moreover, the finding implies that Polish people have a more effective approach and attitude towards solving social problems in general. The finding could be due to behaviours acquired from Poland’s not-too-distant past, where resourcefulness and effective problem-solving were essential to live anything like a decent life (Machin & Williams, 1998). Specifically, in the 1980s with the Soviet Union governing the country and Martial Law being in place, normal life was drastically restricted and there was an economic crisis (Mason, 1991). During this period, Polish people had to confront many challenges daily and were generally faced with considerable difficulties, where even simple activities such as getting food or socialising required careful planning. Therefore, it might be that the current younger Polish generation adopted this approach to life based on the experience of their forebears. To test this suggestion, future research should examine social problem-solving across generations as well as cultures. Given the potential health and well-being benefits of effective social problem-solving (Cameron et al., 2004; Dreer et al., 2009; Elliott & Shewchuk, 2003), the importance of identifying factors that influence social problem-solving cannot be overstated.

Despite the strengths of the study (e.g., novelty, practical implications of findings), it suffered from one notable limitation: self-report data were collected. This raises the possibility of social desirability causing bias in responses to the questionnaire items. Using experimental methods to examine causal relations among target measures will go some way to addressing this issue in future research. However, because evaluating emotional processing and social problem-solving naturally involves gauging people’s perception or understanding of their feelings and situations, respectively, there is always likely to be a sizeable element of subjectivity involved in any research in this field.

In addition to investigating cross-cultural differences in two constructs germane to mental well-being (emotional processing and social problem-solving), the present study begins to highlight the interplay between these constructs. Moreover, in confirming the robustness of the constructs and a link between the constructs, the study suggests that Polish and British people do not seem to have the same attitudes toward solving social problems. Given the lack of previous research into the link between social problem-solving and emotional processing and cross-cultural differences in these constructs, the study has arguably raised more questions than it has answered: Will the same findings be evident among older people? Do normal functioning people from other cultures differ in emotional processing? Is impaired emotional processing...
only applicable to people experiencing clinically-diagnosed mental health disorders? By answering such questions, future research will be well-placed to build on the present study and inform the development of psychotherapeutic interventions based on social problem-solving and emotional processing.

References


