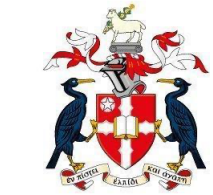

LIVERPOOL HOPE UNIVERSITY

# INTERPERSONAL AFFECT WORSENING SCALE (IAWS): DEVELOPMENT AND VALIDATION OF A NEW QUESTIONNAIRE TO ASSESS MOTIVES AND STRATEGIES

A Ph.D. Thesis

By

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Submitted to the Postgraduate Research of
Liverpool Hope University
In partial fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

October 2023

## DECLARATION

I hereby declare that the contents of this thesis are my original work, and that the contents of this thesis have not been accepted for any other degree or diploma at any university or equivalent institution. To the best of my knowledge, this thesis does not contain any materials that were previously published, except for the in-text references. The development and writing up of all the Chapters in the thesis were my principal responsibility, working with the Department of Psychology under the direction of Principal Lecturer Dr Lorna Bourke, Director of Studies Professor Nick Donnelly, and Psychology Lecturer at the University of Manchester Dr Belén López-Pérez.

Shayne G. Polias
October 2023

## ABSTRACT

Interpersonal emotion regulation, or managing others' emotions, does not always entail directing others' feelings to positive states, but also inflicting or upregulating negative emotions. The process of causing others to experience unpleasant emotions is called interpersonal affect worsening. Although research in interpersonal emotion regulation has progressed, interpersonal affect worsening has only received limited attention. The relative lack of research on interpersonal affect worsening can partly be due to the limited assessment tool that can delineate between the motives for interpersonal affect worsening and the regulation strategies to achieve it. Therefore, this thesis focused on the development of the interpersonal affect worsening scale (IAWS), a tool that aimed to measure motives and strategies in interpersonal affect worsening.

Drawing upon theoretical models by Tamir (2016) and Niven (2016), items were designed to assess motives, namely instrumental (i.e., wanting another person to perform well so as to achieve a goal), altruistic (i.e., looking after what will benefit the person), and conformity (i.e., maintaining social norms and harmony). For the development of items to assess regulation strategies, the Interpersonal Affect Classification (Niven et al., 2009) was considered as it is the only model that explicitly discusses regulation strategies in relation to affect worsening. Specifically, items were created to evaluate the strategies of affective engagement (i.e., altering how others think about the situation or the consequences of their actions), putting own feelings first (i.e., openly showing annoyance or anger towards others), and rejecting others' emotions (i.e., being overtly mean towards others). Importantly, instead of a general or context-free questionnaire (e.g., Classical Test Theory, Fan 1998), the items and scenarios were generated based on the examples of real-life experiences within family, peers, or work provided by 41 people. After going through readability testing by another 12

people, and interrater reliability of two researchers, only six scenarios with three items for motives and three for strategies were included in the final version of the IAWS.

The first study (Chapter 2) conducted with 355 participants recruited from a University in the Northwest of England aimed to study the factor structure of the IAWS and the reliability of the scales. The exploratory factor analysis for motives yielded factors based on scenarios not according to the suggested factors (i.e., instrumental, altruistic, and conformity). Meanwhile, the strategies resulted in a two-factor structure model separating Engagement (i.e., affective engagement) and Rejection (i.e., putting own feelings first).

The second study conducted (Chapter 3) aimed to evaluate the fit of the model obtained for the regulation strategies through confirmatory factor analysis, consturct and criteria validity, and test for measurement invariance. Participants were recruited in the United Kingdom ($n$ = 325) and the Philippines ($n$ = 221 individuals). Confirmatory factor analysis showed good model fit indices, confirming the two-factor structure (i.e., Engagement, Rejection). Correlation with established measures supported construct and criterion validity for the IAWS. Furthermore, the IAWS reached measurement invariance showing its applicability to two different countries. The findings also showed the differences between the strategy use, where participants from the Philippines reported a higher use of Engagement compared to the participants from the United Kingdom.

Lastly, a third study (Chapter 4) was carried out to assess measurement invariance between younger (n = 231) and older adults (n = 203) from the United Kingdom, given that previous studies in emotion regulation highlighted important differences between these age groups in terms of emotionality and regulation skills. Results showed measurement invariance, for both Engagement and Rejection subscales of the IAWS, thus, allowing comparisons between younger and older adults. In addition, results showed that while young

and older adults did not differ in their mean scores for Rejection, older adults reported a higher tendency to use Engagement.

The results obtained in the thesis are discussed (Chapter 5) in relation to existing findings and theories regarding affect worsening motives and strategies. The findings contribute to the limited empirical evidence on the process of affect worsening, particularly the strategies that people use to induce negative emotions on others, as the strategies suggested so far had not received any empirical support. Based on the outcomes of the studies, the strategies that individuals employ to worsen others' affect seem to include in their definition the motives that drive people to use them (i.e., while Engagement seems to entail altruistic/instrumental motives, Rejection involves counter-hedonic motives in their definition). This opens an interesting debate as to whether motives and strategies can be separated in the process of interpersonal affect worsening. In addition, the thesis found that strategy use in affect worsening could be potentially different depending on the culture, and in different developmental stages. Therefore, this opens the door to further studies to better understand what social contexts may make certain regulation strategies more prevalent and what variables in the lifespan may account for changes in strategy use.

*Keywords:* scale development, interpersonal affect worsening, culture, age differences

**DEDICATION**

To my Papa, Edgardo A. Polias,
To my Mama, Agnes Fe G. Polias,
To the strength that kept me going, Mu.
To the love that kept on giving, Hope.
To the comfort that keeps on consoling, Stuart.
To the start of a new beginning, Faith.

## ACKNOWLEDGMENTS

*"Oran a azu nwa – it takes a village to raise a child."* – African Proverb

I consider my PhD as raising a child: it took a whole community for me to be able to achieve my goals. I would like to take this opportunity to express my heartful gratitude to the people who made my PhD journey possible and worthwhile.

I am grateful to my research supervisory team who have guided and moulded me to be the student I am today. I am thankful to Dr. Lorna Bourke, who took a chance on me and accepted me as her PhD student. Her guidance and valuable insights have helped me to know what I want to do with the research I have started, and how I will be able to apply it even after my PhD. I am also grateful to our Director of Studies Professor Nick Donnelly for his support, encouragement, and enlightening ideas during the CRE interviews. Lastly, my gratitude and praise to Dr. Belén López-Pérez. There is so much I want to say, but I hope that my heartfelt thank you will be enough. Her dedication and effort have been unparalleled. Even during her maternity leave, we would still have our weekly meetings so she could track my progress, and just a couple of weeks after the arrival of Martín, we immediately went back to work. I am fortunate to have learned so much from her, and for all the opportunities she has opened for me. My heart will forever be filled with gratitude knowing that I am who I am today not just as a researcher, but also as a person.

I want to express my thanks to Dr. Antonio Zuffianò for all the learnings I received from him. He taught me how to view things from a different perspective, and to be more objective and pragmatic. Best of all, he made me realise that the mathematical side of Psychology can be fun too. It was not easy, but his reassurance and assistance helped me to know what I could do. To the rest of the Italian Crew - Lucia Manfredi and Fulvio Gregori for being my lifebuoy when statistical analyses became overwhelming. Most especially to the friendship, and the laughter we had together.

My sincerest thanks to the Psychology Department of De La Salle University Manila for allowing me to explore possibilities. If it was not for the Psych Dept, I would not have been given the chance to apply for the PhD studentship at Hope. To my mentor at La Salle, Dr. Melissa Lopez Reyes who pushed me to be brave and spread my wings, who has guided me, who has helped me to see the world, and who has inspired me to be a better me, thank you. Thank you also to Dr. Madelene A. Sta. Maria for planting the seed of research and led me to love socio-emotional development. I also want to acknowledge her invaluable input for the third study of my thesis. Thank you too to Dr. Alexander Co Abad who was also a PhD scholar from La Salle at Hope for helping me with the process I needed to follow, and for always offering his assistance. Most importantly, none of this will also be possible without the funding of La Salle (in partnership with Hope). I consider myself to be one of the blessed ones as the opportunity of being able to receive full funding does not always come often. Thank you to Miss Karen of the Office of Provost for her patience in liaising with what I needed.

I wish to thank the people whom I have met at Hope. To Prof Naguib for showing me that the La Salle – Hope partnership is not just about the institution, but for also looking after me, and to Prof. Atulya Nagar for all the support that the PGR has given me. To Ruth Batin, and Marianna Costache for their friendship, to Georgina Bailey who was kind enough to offer

help in the polishing of the scenarios of the IAWS, and to the rest of the Psychology PhD students. I am also thankful to the individuals whom I have met here in Liverpool, the JIL Filipino community especially to Jenny Flores who has been my home away from home.

I am also taking this opportunity to express my thanks to the people in the Philippines. To Encantadia aunties for their undying love and support. To Noel and Alice Madrigral who have always helped us, and for being proud of me and my siblings. To JIL Pasay for assisting me in my data collection. To Melvin Calaquian, Reginald Marquez, and Richardson de la Cruz for being my daily dose of laughter. And to all my friends and colleagues back home, thank you!

Above all, to my family and relatives who have been cheering for me since Day 1. I am indebted to my parents, Edgardo and Agnes, who have sacrificed and worked really hard to give me and my siblings a comfortable life. They were the ones who walked for us so I and my brothers could run. Also, I am thankful to my father for never failing to give me the strength, even though we are miles apart, to continue fighting and keeping me afloat. To my mother who would always remind me that they love me. To my brothers, Kred and Ace, who have been always understanding and supportive, and of course, for the Netflix subscription. To Krisha Napod for looking after our Papa while I am here. I want to thank the Forteza, Sarmientos, Ramoses, and Gramatas for always rallying for me. And most dearly, to Mali, Melot, Mikko, and my favourite boy, Stuart, we made it.

I want to thank my beautiful little baby, Hope, for helping me to finish my PhD. She has served her purpose well, and though our time together was cut short, her memories and love will always stay with me. She was the reason why I pulled through the darkest and lowest moments of my PhD, and she did it with patience and love. Her gentle pawing that woke me up every morning reminded me that I had a life to live, not for me, but for her. My heart will always have a void that only she can fill.

Thank you too my dear lad, Faith. You are a hard work, but you gave me back my purpose in life. Your energy and zest for life showed me that there is a silver lining that I can always look for. I love you with my whole being, Faith.

Lastly, thank you Lord. To You be all the glory.

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# APPENDIX

Interpersonal Affect Worsening Scale

## Chapter 1: Process and Measurement of Interpersonal Affect Worsening

Emotion regulation (ER) is the process by which people monitor, evaluate, and modify their emotional responses (Thompson, 1991). Contemporary views and studies of ER (Gross et al., 2007) have focused on *intra*personal or *intrinsic* ER, or the management and control of one's emotions or emotionally laden experiences (Gross, 2013; Niven, 2017; Zaki & Williams, 2013). Through *intra*personal ER, people manage to appropriately display emotions, to change their feelings for the better, and to act more aptly than they would have otherwise (Campos et al., 2011; Gross, 2008). Moreover, as a conscious process, *intra*personal ER raises individuals' awareness of the emotions they feel, what triggers them, and how they experience and express them (Gross, 1998; Mauss et al., 2007).

However, more recently, there has been an increasing interest in investigating another type of ER, *interpersonal* ER, which concerns the social nature of managing emotions (Hofmann, 2014; Parkinson & Manstead, 2015). Specifically, *inter*personal ER entails regulating the emotions of both oneself and others through social means (Dixon-Gordon et al., 2015). Literature has used the term *inter*personal ER to refer to two different types of regulation; intrinsic (i.e., regulation of one's own emotions relying on others) and extrinsic (i.e., conscious effort to regulate other people's emotions) (Williams et al., 2018; Zaki & Williams, 2013). The current thesis focuses on the latter process.

The growing interest in investigating *inter*personal ER is not surprising given emotions are present during social interactions (Van Kleef, 2009), and that *inter*personal ER can have implications on social functioning and interpersonal relationships (Kwon & López-Pérez, 2021). For instance, adaptive *inter*personal ER may deepen current relationships: people begin to trust each other more, develop stronger friendships, give each other mutual support, positively co-regulate emotions, and contribute to each other's well-being (Butler,

2015; Butler & Randall, 2013; Niven, 2017; Niven et al., 2012; Parkinson et al., 2005; Williams et al., 2018), while maladaptive *inter*personal ER, such as co-brooding between two persons can lead to co-rumination resulting in increased anxiety and dysregulation of emotions (Butler, 2015; Parkinson & Simons, 2012). Most studies to date have focused on affect improvement (AI) in *inter*personal ER (e.g., López-Pérez et al., 2016; Pacella & López-Pérez, 2018). Considering the outcomes, and the possible role that *inter*personal ER plays in social exchanges, the current chapter focuses on the characteristics and process of interpersonal affect worsening, given that is an area scarcely investigated. W. Nevertheless, ER is not just about promoting pleasure or avoiding pain (Koole & Aldao, 2016), it can also be used to manage emotions depending on its utility in certain situations (Parrott, 2001). Therefore, people can be motivated to make others feel bad if those negative emotions can be useful (Erber & Erber, 2000). For example, managers may inflict anxiety on their employees to accomplish tasks to meet deadlines (Hareli & Hess, 2010; Parkinson & Simons, 2012; Van Kleef et al., 2010). Or when football fans heckle players on a different team (i.e., stimulate anger) on the pitch with the intention of causing those players to lose focus. Given that negative emotions are imposed, affect worsening can have varied effects on both targets and agents. Due to the limited number of studies looking at affect worsening the current thesis will focus on this emotional process.

**What is Interpersonal Affect Worsening (affect worsening) and Why is it Important?**

Affect worsening is the up regulating of negative emotions (Nozaki & Mikolajczak, 2020), and can refer to instances in which an agent aims to deteriorate the mood of the target (Niven et al., 2009). It entails consciously decreasing positive emotions (e.g., lowering happiness) while inflicting (e.g., inducing guilt) or intensifying negative or unpleasurable emotions (e.g., causing fear) on others.

Affect worsening can entail negative consequences for the agent, the target, and the social bond. For the agents, affect worsening can bring a psychological toll. It was found that after agents had worsened the target's affect, they experienced emotional exhaustion, had lower well-being, less close relationships, and decreased levels of positive moods (Martínez-Íñigo et al., 2013; Niven et al., 2012). Targets who experience affect worsening can feel rejected and devalued (Leary et al., 1998). In addition, the relationship between the agent and the target can become strained with the target losing trust, and expressing hostility towards the agents (Baumeister et al., 1990).

Despite the negative outcomes, affect worsening can produce beneficial results as well. This is possible when targets perceive the genuineness of the agents' actions in aiding them to regulate their emotions (Reeck et al., 2016); which in turn, leads to enhanced relationships because affect worsening is viewed as an expression of support (Graham et al., 2008). This may be particularly possible when there is a match between how the agent wants the target to feel and how the target wants to feel (Zaki, 2020). For example, an agent inducing anxiety to the target who prefers to feel anxious when accomplishing tasks.

**The Process of Interpersonal Affect Worsening**

Theoretical accounts in interpersonal ER have proposed different stages to outline how the process may take place. It is important to highlight that these models have been proposed to explain instances of interpersonal affect improvement, and therefore it is suggested that affect worsening can also be possibly explained by the same models. For example, Dixon-Gordon et al. (2015) proposed an interactive model in which the target can seek the active regulation of the agent, and it can happen in two ways: (1) the agent decodes how the target feels and then implements a number of strategies with the aim to change the emotions experienced by the target, or (2) the agent may decide to change targets' emotions without the target asking for the agents' assistance. The second path is more likely to take

place in affect worsening as the agent may decide to worsen the target's feeling without the target actively seeking for emotion modification. However, this remains to be tested.

The Social Regulation (Reeck et al., 2016) and the Extrinsic Regulation (Nozaki & Mikolajczak, 2020) models propose three different stages that are key for interpersonal affect worsening: identification (i.e., perception of how the target feels and think how the target should feel), selection (i.e., choice of specific regulation strategies to induce the desired emotional response in the target), and implementation (i.e., evaluating whether the application of regulation strategies was successful). In the current thesis, the stages of identification and selection will be studied by focusing on the regulation motives and the regulation strategies, respectively. The regulation motives are proposed to be contained within the identification stage as motives may affect how the agents want the targets to feel (Niven, 2016). The regulation strategies are clearly part of the selection stage as agents think of possible strategies or means to change the emotions of the targets during the affect worsening process. In the next sections, these concepts will be explained in more detail:

**Motives in Interpersonal Affect Worsening.** The direction in which people worsen others' affect can be driven by different motives (Tamir, 2016) to attain certain outcomes (Niven, 2016). Even though traditional accounts have focused on hedonic considerations (i.e., increasing positive and decreasing negative affect, Larsen & Diener, 1985), it is also possible that people can be motivated to change others' emotions to make them feel upset (i.e., counter-hedonic motives, Tamir, 2016; Tamir et al., 2020).

Following an instrumental account, people can make others feel bad not for the sake of hurting them but because feeling negative emotions can entail a potential benefit for the agent, the target, or both (Tamir, 2016). According to this, affect worsening can be motivated for *instrumental* reasons, that is, changing others' emotions might be done with the purpose of attaining a different goal (Netzer et al., 2015). For example, wanting another person to feel

bad so that they perform worse in a competition. affect worsening can also be *altruistically* motivated, that is, wanting others to feel negative emotions because it will be beneficial in the long-term for the target (López-Pérez et al, 2017; Niven, 2016). For instance, a parent may want their child to feel bad when misbehaving as this can improve the child's behaviour in the long run.

Affect worsening can serve a broader *social* motive such as promoting relationships and affiliation with different groups (Frijda & Mesquita, 1994). For example, a group of people will show disgust towards other groups with whom they do not identify (Dovidio & Gaertner, 2004). Within social motives, this thesis identifies *conformity* motives (Niven, 2016) where the regulatory effort is to adhere to social norms and maintain harmony with others by complying with acceptable display rules. For example, parents might get angry at their children as a form of regulating emotional expression for their children to appear desirable to others (Louie et al., 2013). Lastly, affect worsening can be guided by *epistemic* motives where the agent might inflict emotion on the target to gain or verify information about that person or others. For instance, an interrogator may inflict guilt on others to access information (e.g., interrogational torture; Keshnar, 2005), or a defence attorney might induce self-doubt in the witness to vindicate their counterargument. Figure 1 summarises the types of affect worsening motives and their potential impact/goals.

Given that most research focused on instrumental and altruistic motives (López-Pérez et al., 2017, Netzer et al., 2015; Niven et al., 2019), this thesis will also focus on these motives. Focusing on instrumentality (i.e., performance goal) will bring an understanding of whether agents are driven to change targets' emotions when they deem that performance should be encouraged or increased to attain goals (Koole, 2009; Netzer et al., 2015; Niven, 2016; Tamir, 2009). Furthermore, altruism may be chosen because of the possibility that agents are empathic to the targets (López-Pérez et al., 2017; Zaki, 2020) thereby acting

towards what will benefit them (Batson et al., 2015), even if it means worsening their affect (López-Pérez et al., 2017). With empathy, interpersonal affect worsening can be *cooperative*, that is when the agents and the targets' emotion goals match; the agents want the targets to feel negative, and it is the same emotions that the targets want to feel. For example, a coach who instils anger in an athlete who wants to feel rage before competing. On the other hand, interpersonal affect worsening can be non-cooperative or *paternalistic*. This happens when there is a mismatch between how the agents want the targets to feel and how the targets want to feel. In those instances, agents may want targets to feel bad because they know this will be beneficial for the target. However, the targets want to feel good in that situation. For example, a child who feels happy playing video games rather than studying was told off by parents and warned that the video games would be taken away.

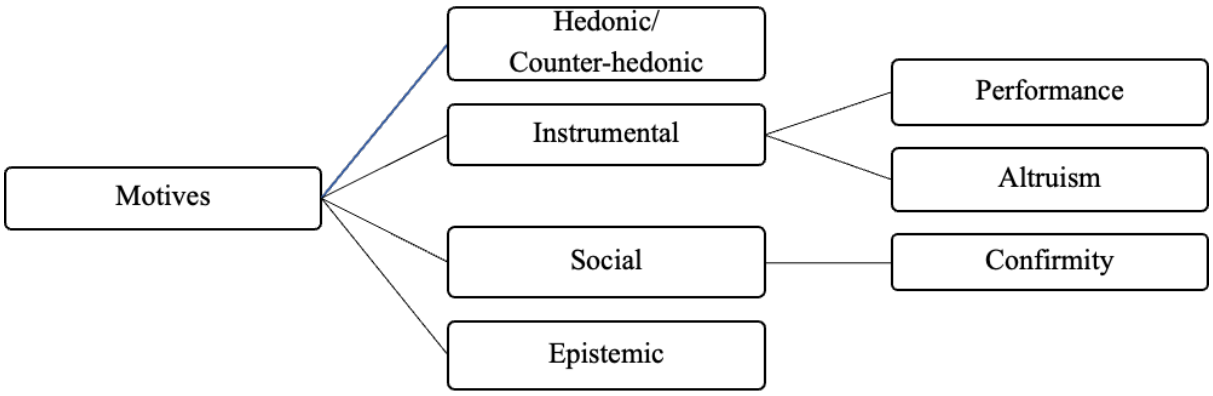
Lastly, this thesis considered conformity as one of the main contributors to why people are driven to modify others' emotional experiences. People act and behave in ways according to the norms of cultures (Bernheim, 1994; Matsumoto & Hwang, 2011), including the emotions that individuals are allowed to feel and display (Ekman & Friesan, 1969; Ekman, 1972). Since the norms that people follow vary from culture to culture, it stands to reason that people will be motivated to sway others' emotions towards feelings that are socially appropriate (Cialdini & Goldstein, 2004) to maintain significant social functions (Keltner et al., 2003).

Hence, this thesis will delve more into investigating instrumental and altruistic motives as it will support initial findings that people are driven to alter others' feelings because (1) agents deem that modifying targets' emotions can boost the targets' desire to accomplish goals (e.g., finish tasks; winning), and (2) there are agents who are focused on ensuring that the targets' welfare and interest are given premium. As for conformity, it is salient to study the possible role of social context in why agents alter a target's affect. Since

people are expected to regulate emotions in a socially appropriate manner (Erber & Erber, 2000), it is also important to know how social expectations and culture can affect how agents modify targets' emotions.

**Figure 1**

*Motives in Affect Worsening ER based on Tamir's (2016) and Niven's (2016) Model*




Note: Affect improvement and affect worsening have the same motives – where the main distinction is between hedonic and counter-hedonic motivations.

**Regulation Strategies in Affect Worsening.** One of the first and more empirically supported models to understand regulation strategies is the Process Model of Emotion Regulation (PMER; Gross, 1999, 2002, 2015). The PMER suggests that the emotional response can be inhibited, changed, or modulated in different stages. According to this model, there are antecedent-focused strategies, that is, those aimed at changing the emotional response before it is expressed. Here, strategies such as situation selection (i.e., choosing whether to approach or avoid people or events that can have an impact on emotions), situation modification (i.e., changing the immediate environment to lessen the possible emotional effect), attention deployment (i.e., shifting of attentional focus to modulate emotions), and cognitive change/reappraisal (i.e., evaluating the emotion eliciting event to modify the emotion significance of the event) are used. On the other hand, response-focused strategies are those that impact the emotional response once this has taken place. Here, the strategy such as response modulation (i.e., influencing the emotion response) is being used.

Although this model was initially conceived to explain intrapersonal ER, Little and colleagues (2012) proposed that those strategies could also feature in the interpersonal domain when aiming to make another person feel better. In detail, the measure they proposed (i.e., the Interpersonal emotion management questionnaire) provided empirical support to the strategies of situation modification, attention deployment, cognitive change/reappraisal, and modification of the emotional response/suppression.

Before this model was suggested to be applicable to the interpersonal domain, Parkinson and Totterdell (1999) proposed that although there is a wide repertoire of regulation strategies that may feature in intrapersonal and interpersonal ER, there is an overarching distinction between those strategies that are behavioural (e.g., doing something to modify emotions) and cognitive (e.g., thinking about the situation to alter the emotional experience); and those aimed at engagement (i.e., directly targeting the emotional response of the target, e.g., attending to and solving the problem) and diversion (i..e, redirecting the attention and/or avoiding the emotional response of the target; e.g., withdrawal, distraction, avoidance).

Based on this classification, the Interpersonal Affect Classification (IAC, Niven et al., 2009) described and classified affect improvement and most importantly for this thesis, affect worsening regulation strategies. The Interpersonal Affect Classification is separated into strategies that are aimed at improving or worsening the strategies of the target (Figure 2). In fact, the affect improvement regulation strategies proposed in the Interpersonal Affect Classification have received empirical support (Kwon & López-Pérez, 2022; López-Pérez, 2018; López-Pérez et al., 2017; Naughton et al., 2023; Niven et al., 2012; Niven et al., 2015; Niven et al., 2019).

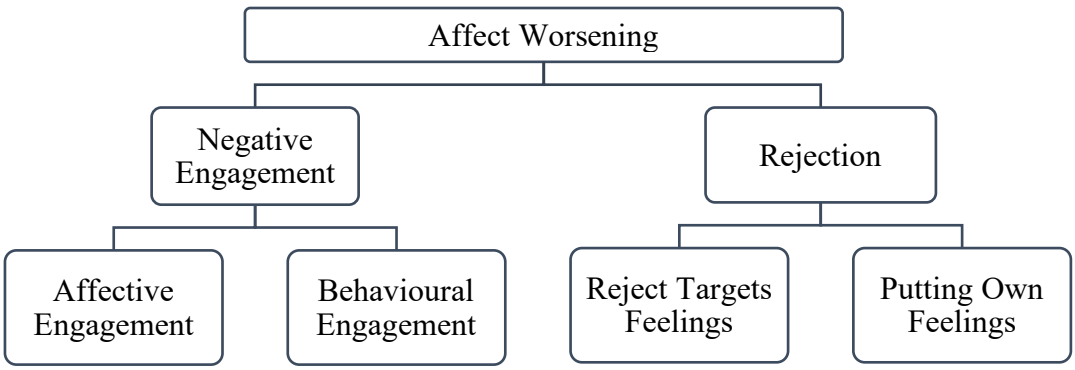
Concerning affect worsening, the Interpersonal Affect Classification proposes that agents consciously worsen others' emotional experiences by using different means

(Parkinson & Totterdell, 1999; Parrott, 1993). Specifically, the model makes a distinction between *negative engagement* (i.e., involves the target with certain situations or affective state), and *rejection* (i.e., actions that outrightly show rudeness, annoyance, or detachment) which are also divided into further categories. For negative engagement, strategies that are often used are (1) affective engagement (e.g., agents expressing to the targets that they are not delighted with them), and (2) behavioural engagement (e.g., agents telling the targets that they are causing others trouble to change how they act).

As for rejection, the different strategies that agents apply are (1) rejecting others' emotions, and (2) putting own feelings first (e.g., showing the agents' anger toward the targets). The means of rejecting others' emotions have sub-means which are diminishing in comparison (e.g., being condescending towards the targets), (2) withdrawal (e.g., not paying attention to the targets), (3) criticising (e.g., giving the targets offensive comments), and (4) disrespect (e.g., being ill-mannered towards the target). The means proposed for affect worsening have received little empirical support so far (Niven et al., 2012; Niven et al., 2019) largely because most research has focused on affect improvement strategies (Kwon & López-Pérez, 2022; López-Pérez, 2018; López-Pérez et al., 2017; Niven et al., 2012; Niven et al., 2015; Vazquez et al., 2020).

**Figure 2**

*Affect Worsening component of the Interpersonal Affect Classification (Niven et al., 2009)*




*Note.* Negative engagement and rejection are the primary means, while the categories underneath them are the secondary means.

## Interpersonal Affect Worsening and Related Constructs

Given that interpersonal affect worsening involves hurting others' emotions, it is important to separate this from other similar constructs related to aggression. Thus, it is significant to highlight the similarities and differences to better understand how affect worsening is an important process on its own.

**Machiavellianism.** Machiavellianism is a personality trait characterised by using manipulation and deception to attain one's goals (Christie & Geis, 1970; Dow, 2023). Individuals who are high in Machiavellianism are believed to be void of emotions, and have no awareness of their emotion experiences, leading to their inability to be empathically attuned to the feelings of others (Andew et al., 2008; Jakobwitz & Egan, 2006; Wastell & Booth, 2003). In addition, they are characterised by distrust, amorality, and lack of interpersonal affect in relationships (Drory & Gluskinos,1980), which in turn can make them treat people like objects and control them for their own benefit (Wastell & Booth, 2003).

Affect worsening and Machiavellianism can share some similarities when affect worsening is counter-hedonically motivated as it is executed with the purpose of hurting the other person. However, affect worsening will differ from Machiavellianism when it is altruistically motivated, and affect worsening happens because it will be beneficial for the target in the long-term. This latter process involves the agent empathising with the target (López-Pérez et al., 2017) and therefore, seems incompatible with Machiavellianism as this is characterised by a lack of empathy.

***Emotional Manipulation.*** Manipulation refers to tactics that intentionally coerce, influence, and change others' behaviours by getting them to do something (i.e., instigation), or making them stop doing what they are doing (i.e., termination) (Buss et al., 1987). The tactics used to manipulate do not always imply being harmful or malicious (Buss et al., 1987), but for emotional manipulation, others' emotions are being managed to change a

behaviour that will suit the manipulator's interest. This is dissimilar to interpersonal affect worsening because the main intent is to change the emotions, rather than the behaviour. Although there may be behavioural change in affect worsening this is not the final goal of this process, rather the focus of interpersonal affect worsening is to achieve emotion goals, that is, to worsen others' affect rather than directly altering the behaviour.

***Anti-social Behaviour.*** Antisocial behaviours are acts that disregard the rights of others, such as aggression or behaviour directed towards another person to cause physical or mental harm (Loeber & Stouthamer-Loeber, 1998; Roberton et al., 2012). Antisocial behaviour can only be considered similar to interpersonal affect worsening if the final aim is to hurt others' feelings. One example is people who bully others to humiliate or inflict psychological pain (Neuman & Baron, 1998; Smith & Sharp, 1994) through insulting and name-calling (Baron & Neuman, 1996; Bennett & Robinson, 2000; Björkqvist & Niemelä, 1992) or social exclusion (Juvonen & Graham, 2014). Another example is the spreading of rumours or gossiping (Bennett & Robinson, 2000; Juvonen et al., 2012) to injure others by causing distress (Chandra & Robinson, 2009).

Overall, this section has shown how although affect worsening shares some features with other aggression-related concepts, it is a distinct enough process to warrant further investigation.

**Evaluating Interpersonal affect worsening**

Following the different theoretical accounts and aspects previously presented, there are two key elements within the ER process that will feature in this thesis: regulation motives and regulation strategies. This section will review how these two elements have been measured to identify potential lacunas that will inform the current thesis project.

**Regulation Motives**

Motives have been mainly inferred in experimental studies, in which contextual variables were manipulated, to evaluate the emotions agents wanted to induce in the targets considering the possible gains/losses that this may inflict on the agents (López-Pérez et al., 2017; Netzer et al., 2015; Niven et al., 2018). For example, participants were assigned to different tasks (e.g., a confrontation or an escape video game) and their altruistic (López-Pérez et al., 201b) or instrumental (Netzer et al., 2015) motivation was inferred depending on whether making the other feel bad could be detrimental or advantageous for the agent themselves. Only one study explicitly asked participants to report their motivation to worsen rule transgressor's feelings focusing on hedonic vs. instrumental considerations (López-Pérez et al., 2021) but to date, there are no dispositional questionnaires that evaluate people's tendency to be driven by specific motives when worsening other people's emotions. This is a particularly important gap as motives can help further understand what pushes agents to engage in affect worsening, knowing that it can lead to undesirable outcomes for the target. Additionally, only a limited number of motives, namely instrumental and prosocial ones, have received empirical support (i.e., López-Pérez et al., 2017; Netzer et al., 2015; Niven et al., 2019).

**Regulation Strategies**

Finally, regarding the assessment of regulation strategies, there has been a wide array of approaches that have been used. First, from a dispositional point of view, there are two questionnaires that have been developed to evaluate people's tendency to use different strategies when improving, or worsening others' feelings.

***Emotion Regulation of Others and Self (EROS, Niven et al., 2011).*** EROS is a 5-point Likert scale based on the theoretical underpinning that the regulatory process involves different targets such as the self (intrinsic) or other (extrinsic; Ford & Gross, 2018), while

also taking into consideration the regulation direction (i.e., affect improvement and affect worsening, Niven et al., 2009), and the variety of strategies to modify emotions (Parkinson's & Totterdel, 1999). EROS gauges the individual differences in engaging in different ER processes namely intrinsic affect improvement, intrinsic affect worsening, extrinsic affect improvement, and extrinsic affect worsening. The final version of EROS has 19 items, three of which belong to the *extrinsic affect worsening* subscale that measures the use of affective and behavioural engagement and rejection (i.e., putting own feelings first) strategies when making others feel upset or bad. However, although the items refer to specific strategies according to the Interpersonal Affect Classification framework, it measures a tendency to engage in affect worsening rather than measuring the use of specific affect worsening strategies.

***Managing Others Emotion Scale (MEOS, Austin & O'Donnell, 2013).*** MEOS measures mood-improving, mood-worsening, prosocial, and non-prosocial aspects of regulating others' emotions. MEOS comprises four subscales, but only one gives emphasis on measuring affect worsening. The subscale of worsen (i.e., mood worsening) considered the personality aspect of *inter*personal ER by highlighting the role of dark triad traits (e.g., narcissism, Machiavellianism, and psychopathy) in the use of criticism/negative comments, undermining confidence and displaying anger when managing others' emotions.

**Observation and Other Methods**

Other studies focused on *inter*personal ER strategies in adults have relied on the observation of couples when discussing worrisome situations and evaluating the type of regulation strategies used (e.g., Parkinson et al., 2016). Finally, other investigations have used daily diaries to examine the use of strategies in the context of sports and relationships (e.g., Debrot et al., 2013; Righetti et al., 2020; Ruan et al., 2023; Tamminen et al., 2019). Developmental enquiries exclusively focused on regulation strategies used to up-regulate the

mood of others have depended on observation methods (i.e., Beier et al., 2018; Dunfield & Kuhlmeier, 2013; Saarni, 1992), interviews (López-Pérez et al., 2016), brief questions (Kwon & López-Pérez, 2021), or video games (i.e., Emodiscovery, López-Pérez & Pacella, 2019). The only study looking at affect worsening banked on scenarios to explore the different strategies that children and adolescents use. Results showed that while young children (8-year-olds) used behavioural strategies to worsen others' feelings, older children (e.g., 10-year-olds) and adolescents applied affective and cognitive engagement strategies. This seems to indicate that an advanced theory of mind plays a role in the application of interpersonal strategies (Gummerum & López-Pérez, 2020). Also, the study provides an understanding of what leads children and adolescents to engage in affect worsening, for instance, when they deem that another is experiencing injustice or unfairness in a group (i.e., social exclusion).

Overall, this section highlights the need for further empirical investigation on the use of different affect worsening strategies to better understand what actions people may undertake to worsen the mood of others.

## Lacunas Identified and The Present Thesis

Although research on interpersonal affect worsening is progressing, there are still gaps that warrant further studies to strengthen interpersonal ER as another field in ER.

Previous research has provided empirical support to interpersonal affect worsening; however, the studies have been limited to inferring people's motives in experimental procedures or assessing them with ad hoc items when people were presented with scenarios (López-Pérez et al., 2021). In addition, the use of specific affect worsening strategies has been overlooked in previous dispositional measures (EROS, Niven et al., 2011). Hence, the goals of this thesis are to investigate the following:

## Affect Worsening Motives and Strategies

Previous work that has investigated affect worsening were experimental in nature or with scenarios without an available measure to assess people's motives. This is an important limitation in affect worsening as there is limited knowledge as to what drives people to engage in affect worsening. Hence, the focus of this thesis is to develop a measure that allows the investigation of regulation motives. Specifically, instrumental and altruistic motives will be considered as these two have received empirical support. In addition, conformity motives will also be investigated to examine the possible role of context (e.g., culture) in what drives people to engage in affect worsening. Aside from motives, there is also scant information about the affect worsening strategies. Therefore, together with the motives, this thesis will look into the potential affect worsening strategies that people use. In Interpersonal Affect Classification, negative engagement is categorised into two secondary means (i.e., affective and behavioural engagement). But in this thesis, the concentration will be only on affective engagement. This is primarily because the prototype strategies under affect engagement signify the use of cognitive change, which is a strategy that is often used in ER (Kay, 2016; Quiodbach et al., 2015; Trujillo et al., 2022; Urry & Gross, 2010). In addition, rather than directly changing the behaviour, the interest is in knowing how altering others' thinking will produce negative emotions in them. In terms of Rejection, both the secondary means (i.e., rejecting others' emotions, and putting own feelings first) will be appraised. Putting own feelings first stresses the role of agents' affect expression while rejecting others' emotions deals with the targets' affective states.

## The Role of Culture in affect worsening

The social contexts in which individuals are embedded influence their behaviour and way of thinking (Kemper, 1991) because societies have expectations and norms that are given meaning by the culture (Matsumoto, 2007). On this account, it is suggested that people's ER

can be shifted by culture (Ford & Mauss, 2015; Ma et al., 2018) as it can determine how people experience and express their emotional responses (Mesquita & Walker, 2003). Aside from the work conducted by López-Pérez and Pacella (2021) that emphasised the role of culture on affect improvement, the connection between extrinsic interpersonal ER has not been widely investigated which leaves an important gap regarding interpersonal affect worsening. Considering culture in the context of affect worsening, there might be cultures that can potentially have a greater willingness to worsen others' affect. This may happen because certain cultures endorse particular motives and strategies to a different extent. In regard to motives, there are cultural contexts that aim to ensure that social coherence is in place because there is a high value on conformity and social order (e.g., collectivism; Kim & Markus, 1999; Matsumoto et al., 2008). In addition, some cultures put a greater significance on performance (Maehr, 20008) and this can make the instrumental motive a more salient driving force for people to regulate others' emotions so tasks will be achieved (e.g., individualism; Liu et al., 2018). Furthermore, there are cultures that emphasise altruistic motives in affect worsening by allowing others to suffer for a period if it will yield long-term benefits (i.e., tough love, Kubota et al., 2013).

Moreover, cultures can influence the ER process as there are strategies that are deterred or favoured depending on what is given importance in the contexts (Butler, 2015). For example, people who value individuality and self-expression have a low preference for emotion inhibition and use reappraisal over suppression (Matsumoto, 2007). There are also cultural contexts where honour is important, hence, having a good reputation is given significance and a threat to it can lead individuals to directly penalise or confront the source of the problem (Cross et al., 2012). For instance, honour culture contexts believe that others are observing and evaluating behaviour, as a result, parents consider berating children to make right an unruly attitude (Taylor & Oskay, 1995), or punitive practices to ensure that

children would properly behave (Deyoung & Zigler, 1994) are acceptable. In light of these previous findings, it can be argued that the mechanism that culture plays in emotion regulation in *intra*personal ER can also be applied in interpersonal ER, specifically in affect worsening.

Hence, the focus of Chapters 2 and 3 was twofold: (1) to develop and validate a measure to assess the interpersonal affect worsening motives and strategies and (2) to evaluate the role of culture to further validate the measure. To that aim, adult participants from the UK and the Philippines (PH) were recruited since the two countries differ in two important cultural dimensions; particularly, the extent to which social relationships are perceived as hierarchical (i.e., power distance), and the extent to which the members of a cultural group see themselves as independent or interdependent (i.e., individualism-collectivism) (Hosftede, 2011). Specifically, the UK is characterised as low on power distance (i.e., egalitarian relationships) and individualism (i.e., individual self), while the Philippines are characterised as high in power distance (i.e., hierarchical relationships) and collectivism (i.e., the self depends on the group) (Hofstede, 2011).

**The Use of affect worsening Motives and Strategies Across Adulthood**

Most studies conducted on different age groups for ER focused on intrapersonal regulation. For example, older adults' use of adaptive strategies has helped them to focus on their positive emotions and away from negative experiences (Urry & Gross, 2010). They are also more able to handle their affect primarily because of the goals they have (focusing on one's emotions and others, Carstensen et al., 2003), cognitions (e.g., positive thinking), and mobilisation of positive emotions, (finding meaning in their emotional experiences, Diamond & Aspinwall, 2003). In addition, older people are less likely to use rumination when handling their emotions (Dworakowski et al., 2022), leading to better mental health and well-being than young adults (Stone et al., 2017).

Even though there have been multiple studies showing that older people might be better at intrapersonal ER, progress in investigating interpersonal ER mostly involved young adults, and only a small number have considered middle and late adulthood. Despite the scarcity of literature on interpersonal ER that measures age differences (i.e., young versus elderly), it can be inferred that since people apply intrapersonal strategies and motives in managing their emotions, it is more likely that they will also use the same when modifying others' emotions. For instance, Niven's theoretical review (2022) discussed that compared to younger employees, older employees (up to the age of retirement) are much more proficient in altering others' emotions because (1) they have better awareness if others need emotion modification, and (2) they apply efficient strategies due to their crystallised intelligence (intelligence brought about by the accumulation of knowledge and experiences, Catell, 1943) and motivation (i.e., fulfilment of feeling connected with others). These findings support the parallelism between intrapersonal ER and interpersonal ER as the ways that older adults have used when handling their emotions (e.g., emotion recognition, and appropriate use of strategies) are the same means that they apply when managing others' emotions. Although the findings on interpersonal ER give us an insight into the difference between younger and older adults, the review only considered adults up to the age of retirement, overlooking part of the third age (50-70 years) and what is known as the fourth age (71 years and above, Baltes et al., 1999). This is distinctly important considering that life expectancy is increasing considerably, and people are expected to live longer (Mathers et al., 2015). Therefore, including the fourth age in the current thesis will provide an understanding of the extent people beyond the age of 70 engage in interpersonal ER. Furthermore, the theoretical review focused exclusively on affect improvement, and as of to-date, there is limited knowledge about interpersonal affect worsening across the lifespan. In particular, the strategies and

motives that young and older adults may use to make others feel bad have not been addressed yet to the best of my knowledge.

Drawing on the findings of the socioemotional selectivity theory (SST, Carstensen et al., 2003), it is posited that young and older adults may differ in their interpersonal affect worsening for different reasons. First, younger adults tend to think that they have unlimited time left and are motivated by building up their knowledge to expand their options in life; while older adults who think that their time is already restricted, focus on creating emotional meanings, and having a sense of connectedness and belongingness (Carstensen et al., 2003). Hence, older adults may be overall less motivated to engage in affect worsening as this may be perceived as something that could threaten their social connectedness. Second, young adults are likely to remember negative memories, while older adults have more memories of positive experiences (Charles et al., 2009), and they place higher importance on maintaining their emotional well-being (Mather & Carstensen, 2003, 2005). Therefore, it is argued that older adults might be less likely to engage in affect worsening, since they are focused on positive emotional experiences, and they tend to be more disengaged during distressing situations (Charles & Carstensen, 2008) because they are after positive social exchanges (Windsor & Antsey, 2010). To evaluate this, Chapter 4 explored the possible age differences in affect worsening comparing young adults from 18 to 40 years with older adults from 60 years and above.

**Conclusion**

Interpersonal affect worsening remains a relatively underexplored and under-documented area in research. The scarcity of information surrounding interpersonal affect worsening underscores the importance of the studies across the forthcoming chapters. The upcoming sections delve deeper into the intricacies of interpersonal affect worsening to

advance the understanding of this emotional process and provide more comprehensive insights into human emotional dynamics and interpersonal relationships.

## Chapter 2: Creating a Dispositional Measure to Assess Motives and Strategies in Affect Worsening

In Chapter 1, the exploration of measures of affect worsening showed that the only questionnaire available was the Emotion Regulation of Others and Self scale (EROS; Niven et al., 2011) and Managing Others Emotion Scale (MEOS, Austin & O'Donnell, 2013). The questionnaires evaluate people's tendency to make others feel bad, however, both do not assess people's motives or strategies to worsen the feelings of others (López-Pérez et al., 2019). Thus, the development of a measure that incorporates people's motives and regulation strategies can aid in better understanding interpersonal affect worsening.

### Motives in Interpersonal Affect Worsening

In interpersonal affect worsening, motives pertain to the agents' inherent reasons for deteriorating the targets' emotions (Niven, 2016; Niven, 2017). For example, an employee may make their colleague feel bad about not meeting an upcoming deadline so that they can focus on finishing the work (i.e., instrumental motive) or for the sake of hurting their feelings (i.e., counter-hedonic motive). Although there are different classifications of regulation motives (Niven, 2016; Tamir, 2016; see also Chapter 1), there are some that are consistent across models and have received further empirical support (López-Pérez et al., 2017; Netzer et al., 2015; Niven et al., 2019; Springstein et al., 2022); instrumental, altruistic, and conformity motives. Therefore, these motives were considered in the development of the measure described in this chapter.

Before explaining each of the motives, it is significant to highlight that motives have only been inferred in previous research through experimental manipulations and interviews. For example, the instrumental motive has been inferred by asking participants (agent) how they wanted the other person (target) to feel when they themselves (agent) could benefit from the target's good performance as a result of feeling negative emotions (e.g., Netzer et al.,

2015). On the other hand, the altruistic motive has been determined by asking participants whether they would like an ostensible target to feel bad in the short-term knowing that this may benefit the target exclusively in the long-term (López-Pérez et al., 2017). Although these studies have been important in ascertaining that people can be motivated to worsen the feelings of others for different reasons, the lack of available self-report measures makes the assessment of motives particularly difficult and time-consuming.

***Instrumental Motive.*** People sometimes use emotions to achieve their goals (Oatley & Jenkins, 1992; Parrott, 2001) especially when the goals produce benefits (Forbes, 2011; Frijda, 1988; Tamir, 2009). For instance, people want to be angry when they need to confront others or they need to carry out confrontational tasks (Van Dijk et al., 2008; Van Kleef et al., 2004; Tamir et al., 2008). This kind of motive is called *instrumental*, where the reason for modifying emotions is to attain desirable or advantageous results or to bring fruition to sought-after goals (Niven, 2016; Tamir, 2016). In the context of *inter*personal affect worsening, agents are driven to arrive at emotion goals (i.e., counter-hedonic) that will be beneficial to the agent (Netzer et al., 2015; Niven et al., 2019) or both agent and target (Forbes, 2011; Tamir, 2016). Evidence of how interpersonal affect worsening is inflicted because it is beneficial for the agent can be found in an experimental study conducted by Netzer et al. (2015) where agents were willing to cause fear or anger to their close partners, or other people because doing so would benefit them for achieving tasks. An example of this in real life can be observed when people who are in healthcare marketing induce fear in their possible clients so that they can in turn gain profits (Benet et al., 1993). At the same time, *instrumental* motive also represents the targets' goal attainment. Meaning, agents can make their targets feel bad if it will help the targets to finish tasks or achieve goals. This represents the performance aspect of instrumentality, where outcomes are attained by finishing an activity (Forbes, 2011; Tamir, 2016). For instance, in leader-member exchange, leaders

threaten their followers to finish tasks to reach organisational goals (Schilling, 2009), or coaches pressure the players to be able to play well during games. Hence, the *instrumental* motive in the scale developed and described in this chapter evaluated the reason for showing goal attainment for both agents and targets, while also looking at boosting the performance of the target.

***Altruistic Motive.*** Altruistic motive refers to a higher-order goal that is aimed at promoting the targets' well-being without agents profiting from it (i.e., compassion motives, López-Pérez et al., 2017; Niven et al., 2016). Although altruistically motivated actions can be perceived as equal to prosocial behaviour, they may not necessarily correspond. One can engage in prosocial actions for a wealth of reasons (e.g., genuinely caring about another person or looking good in front of others) in the same way that agents can engage in affect worsening (Batson, 2011). Altruistic affect worsening takes place when agents know that making others feel bad will be beneficial for the targets in the long term (López-Pérez et al., 2017). For example, a clinical psychologist may deliver exposure therapy to increase the clients' anxiety (short-term negative emotional response) knowing that in the long run, this will be positive for the client to overcome their phobia (Zaki, 2020). Given that altruistic motives are associated with helping others (Dovidio & Penner, 2001), it appears that they can seem to be counterintuitive when it is the basis for making others feel worse. However, López-Pérez et al. (2017) showed that altruistic motives can drive agents to worsen their targets' affect when (1) agents experience empathy for the target, understanding that feeling bad can entail positive consequences for the target and (2) agents do not benefit directly from the targets' emotional experience or performance. Altruistic motives in interpersonal affect worsening have been found in situations of social exclusion (Gummerum & López-Pérez, 2020) and in the context of COVID-19 rule violations (López-Pérez et al., 2021). This

suggests that people do not always want to hurt others' feelings for the sake of making them feel bad but knowing this can bring long-term benefits.

***Conformity Motive.*** Conformity can shape an individual's emotions, cognitions, and behaviour so that they fit with others in a group (Coultas & van Leeuwan, 2015) to showcase social adaptation (Cialdini & Goldstein, 2004). Since ER can also be social in nature (Parkinson, 1996), a regulation process that involves others, particularly *inter*personal ER, is most likely done in accordance with social norms and shared expectations (Niven, 2017). Thus, the *conformity* motive in affect worsening propels to induce undesirable emotions in others that are believed to be congruent with how others should feel and behave in certain situations. For example, in a funeral context where sadness is the expected emotion, if a person (target) is laughing, an agent can be motivated to make the target feel bad to ensure the emotional response of the target is congruent with that situation.

In addition, conformity motives can also play a role in affect worsening due to the heavy influence of culture on emotional experiences and expression (Barrett, 2012; Mesquita & Frijda, 1992; Mesquita et al., 2017), which can lead people to engage in affect worsening to comply with social practices, and what is anticipated by others. Following the findings on what emotions are more accepted in different cultural contexts suggests that individualist cultures may favour promoting interpersonal anger for the target to achieve undertakings, as anger is the expected personal emotion to attain such goals (Matsumoto et al., 2010). On the other hand, collectivistic countries described as more likely to feel guilt and shame may be more willing to induce such emotions in others as these emotional responses are perceived as appropriate (Boiger et al., 2013; Kitayama et al., 2006). Overall, conformity motives can play an important role in shaping an agent's interpersonal affect worsening efforts.

**Regulation Strategies in Interpersonal Affect Worsening**

The attainment of motives is achieved through regulation strategies, that is, the implementation of various tactics to effectively attain desired emotional responses or emotion goals (Millgram et al., 2015; Tamir et al., 2020; Webb et al., 2012). For example, an athlete who wants the opponent to do badly in a game (i.e., instrumental motive related to performance) will engage in negative talking (i.e., strategies) to make the opponent angry (i.e., emotion goal or desired emotional response for the target).

The only theoretical classification that has explicitly addressed interpersonal affect worsening regulation strategies is the Interpersonal Affect Classification (Interpersonal Affect Classification; Niven et al., 2009). Based on this model, negative engagement and rejection strategies can be separated. Under negative engagement, affective engagement consists of talking to the target about their negative characteristics (e.g., telling the target they are not good at doing something), or changing the way the target thinks about the situation (e.g., explaining to the target how they may be hurting someone's else feelings with their behaviour). Rejection can entail displaying one's dissatisfaction with the target (e.g., acting annoyed or angry towards the target), or being condescending towards the target (e.g., giving rude remarks). Concerning the measurement of these regulation strategies, only one study compared engagement (without separating affective and cognitive) to rejection strategies through ad-hoc items (López-Pérez et al., 2021). Hence, the proposed distinction of interpersonal affect worsening strategies by the Interpersonal Affect Classification still needs to be empirically evaluated, as only the general tendencies to engage in affect worsening (without separating into discrete regulation strategies) have received consistent empirical support through the use of a questionnaire in different studies(López-Pérez et al., 2016; López-Pérez et al., 2019; Madrid et al., 2019; Martínez-Íñigo et al., 2013; Niven et al., 2011; Vasquez et al., 2020).

## The Present Chapter

As evidenced in Chapter 1 and the introduction of the current chapter, there is a need to have a measure that helps researchers assess people's motives and strategies when engaging in interpersonal affect worsening. Given that regulation motives and strategies often interact with each other (e.g., Oettingen & Gollwitzer, 2001), it is essential to consider both when evaluating people's disposition to engage in interpersonal affect worsening. Thus, the aim of this chapter is to develop an interpersonal affect worsening (scenario-based) questionnaire that assesses people's motives (i.e., instrumental, altruistic, and conformity), and regulation strategies (i.e., affective engagement, putting own feelings first, rejecting others' feelings). The motives that were included are the ones that received further empirical support (López-Pérez et al., 2017; Netzer et al., 2017; Niven et al., 2019), while the strategies are based on the Interpersonal Affect Classification (Interpersonal Affect Classification, Niven et al., 2009). The focus on Interpersonal Affect Classification as the theoretical framework for the strategies is because it is the only model that highlights affect worsening (e.g., unlike the Process model of emotion regulation, Gross, 2002). Therefore, items were developed considering these constructs, and the psychometric properties of the questionnaire were assessed looking at their internal reliability and factor structure through exploratory factor analysis.

# Method

## Participants

The 365 participants for this study (78.80% females) whose ages ranged from 18 to 48 ($M$ = 19.94, SD = 3.56) were recruited from a University in the Northwest of England where the majority had attained their A-Level stage of education (73.70%). Those who completed the study were given credit points in exchange for their participation. The sample

size was determined according to best practices in Exploratory Factor Analysis (EFA), having at least a ratio of between 5 and 10 participants per item (Costello & Osborne, 2005).

## Procedure

**Item Generation**. To develop the different scenarios and items, the best standards in questionnaire development were followed by doing a two-step process (e.g., Sahdra et al., 2010). Initially, definitions of the different study constructs (i.e., motives and strategies) were created and provided to 41 people (24.39% male, 75.61% female). They were asked to recall and describe instances where they were motivated altruistically, instrumentally, or by conformity when worsening others' affect, as well as situations where they used affective engagement, rejecting others' emotions, and putting own feelings first. Based on these responses, 12 initial scenarios were created. The scenarios were provided to 12 additional people (33.33% male, 66.68% female) to evaluate their readability. Lastly, an inter-rater evaluation was conducted where two independent researchers in the field were provided with the scenarios and items and were asked to evaluate which items belonged to each theoretical construct. Based on the readability and experts' evaluations (Table 1) the following six scenarios were retained.

**Table 1**

*Initial Scenarios Discarded based on Readability and Experts' Evaluations*

| No. | Scenario |
|---|---|
| 1 | At work, your boss decided to give incentives to the first team that would be able to submit a complicated report within the day. You were separated from your closest friends when you were divided into different teams, and they were working faster compared to your group. You want to get an idea about what they were doing with the report, and since some of the members of the opposing group are your friends, you know that they get easily distracted and become talkative when they get irritated. |

2 You and your work colleagues are preparing for a final practical test which will determine the best team from your department. Your bosses will make a decision based on the overall team's performance. It is almost time for your team's turn, but one of your members is not in the venue yet. You look for him in the conference room, and you see that your missing teammate, Ethan, is being harassed by your work colleagues from the other team. You approach them and ask them what has caused their unpleasant actions since it is not the first time it has happened.

3 You and your officemate, Elsa, have been asked by your store supervisor to finish a task. You have already finished your part, and your working hours are already over, but you can't leave because Elsa is only half-way through. Your supervisor told you to make sure that the task was well-organized, and you were the one assigned to do it. You don't want to extend your stay at work because you won't be paid for overtime, and you need to start preparing for your part-time job after your office work, which you can't miss because you badly need the money.

4 You and your friend, Errol, are always together. You are working in different companies, and every time you spend time together, he tells you stories about how mean his office mates are towards him. Once, you go to eat in a fast-food chain, and you don't notice that you are seated beside where Errol and his office mates are. You hear someone make a nasty comment about you. When you look at them, you see that they are with Errol, who is laughing while his friend is saying hurtful words. Errol pretends that he does not know you and does nothing to defend you from their offensive remarks.

5 Your younger sibling, Paula, always asks you to hurry up when you don't like to be rushed. Paula asks you to accompany her to the supermarket to buy groceries for the family. You don't want to go out because you just want to rest, but you agree to go with her because no one else will go. While drying your hair, Paula asks you to move faster because she said that she wants to avoid the rush hour. You are annoyed because you were trying to hurry up for Paula.

6 During a work break, one of your colleagues, Brian, is making fun of your best friend, Janis. He is telling you and your other friends that Janis is underperforming, and her performance is not impressive. Janis can hear everything Brian is saying, and she is already looking distressed. She is not a confrontative type of person, so she just keeps quiet. She has also previously mentioned to you that Brian has been upsetting her for quite some time without any reason.

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**Questionnaire Administration**. Participants signed up for the study through the participation system at the author's institution and received two SONA credits for taking part. After signing the consent form, participants were asked to complete an online survey with the 36-item version of the questionnaire. Upon finishing, participants were debriefed.

**Data Analysis**. MPlus8 (Muthén & Muthén, 2017) was used to conduct a Exploratory Factor Analysis (EFA) with Maximum Likelihood (ML) as an estimator. The Oblimin rotation method was used to obtain a simpler solution to interpret. A threshold of .30 was set for the standardized factor loadings, and items with loadings below that point were dropped from the model in successive iterations. Cross-loading items (i.e., with more than two above-threshold loadings) were also dropped to achieve an interpretable solution. The number of factors to retain was determined based on the goodness-of-fit indices (GOF): Tucker Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). TLI has an acceptable fit at values over a .90 threshold (Bentler & Bonett, 1980), and an excellent fit at .95 (Hu & Bentler, 1999). RMSEA with values lower than 0.05 is considered a good fit, and values greater than 0.05 to 0.08 are considered an acceptable fit (Browne & Cudeck, 1992; Hu & Bentler, 1999; Jöreskog & Sörbom, 1993)

## Results

### Assessment of Regulation Motives

Results of the EFA showed that the items were grouped according to the scenarios (Table 2). This suggests that participants' responses were specific to each scenario rather than to a specific construct, obtaining method factors (i.e., multitrait-multimethod; Kenny & Kashy, 1992; Schmitt & Stults, 1986) that is, factors in which motives were grouped by their assessment or suggested classification. Thus, each factor obtained was not interpretable.

**Table 2**

*Standardised Factor Loadings of the EFA Solution for Motives*

| Item number | Item | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 |
|---|---|---|---|---|---|---|---|
| INS 1 | You want Peter to win the game. | .999 | | | | | |
| ALT 1 | You desire what is best for Peter. | .358 | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| CONF 1 | You are expected to ensure that your niece and nephew treat each other well. | .327 | | | |
| INS 2 | You want him to perform well in the competition. | .570 | .448 | | |
| ALT 2 | You care about Michael's future. | .510 | .584 | | |
| CONF 2 | You are assumed to help your best friend. | .497 | .336 | | |
| INS 3 | You need David to do well in the project. | .387 | | | |
| ALT 3 | You are attending to what is beneficial for David. | .540 | .379 | | |
| CONF 3 | You ought to look after David as he is your younger relative. | .437 | | | |
| INS 4 | You do not want her to ruin the choir performance. | | | | .436 |
| ALT 4 | You are keeping Rachel from making herself unhealthy. | | | .351 | .395 |
| CONF 4 | You are assumed to look out for your friends. | .547 | | .432 | |
| INS 5 | You want Isaiah to finish his task. | .409 | | | |
| ALT 5 | You are considering what is good for Isaiah. | .543 | | | |
| CONF 5 | You are expected to help Isaiah. | .520 | | .405 | -.385 |
| INS 6 | You hope that Patricia will focus on finishing the test. | .759 | | | |
| ALT 6 | You are aware that laughing will not be helpful to Patricia. | .751 | -.365 | | |
| CONF 6 | You and others expect Patricia to be serious during the test. | .533 | | | |

Note: INS = Instrumental; ALT = Altruistic; CONF = Conformity

**Assessment of Regulation Strategies**

The results of the EFA suggested a two-factor structure. This solution showed an acceptable fit (TLI = .98, RMSEA = .03, 90% CI .00 to .73). The final solution consisted of seven items, with factor loadings ranging from .320 to .576. The factor loadings are shown in Table 3, along with the item descriptive statistics. Although all factor loadings are displayed, only the values over .30 (highlighted in bold in Table 3) should be considered as having a relevant weight in the corresponding factor.

As can be seen in Table 3, none of the items designed to assess rejecting others' emotions were retained. The correlation between the two latent factors was non-significant (r = .070, *p* = .122), which suggests that there is no tendency to use both types of strategies when engaging in affect worsening. The first factor included 3 items categorised *a priori* as belonging to 'affective engagement'. The second factor included four items categorised previously as 'putting own feelings first'. Importantly, none of the factors included items categorised as 'rejecting others' emotions. Therefore, the obtained solution does not offer total support to the theoretical distinction suggested in the Interpersonal Affect Classification (Niven et al., 2009) regarding the specific regulation strategies (i.e., affective engagement, putting own feelings first, rejecting others' emotions) but it does offer some support to the super-ordinal categories (engagement vs. rejection). The reliability of each scale was computed through McDonald's (1999) omega following recommendations by Hayes and Coutts (2020) on best practices to study reliability, being .50 for Factor 1 (i.e., Engagement) and .56 for Factor 2 (i.e., Rejection). Although reliability figures were not high, it is important to consider that the number of items per factor was low. Therefore, the values obtained are not surprising and are in line with results previously reported in different methodological papers (Abdelmoula et al., 2015; Cortina, 1993; Ebel, 1969).

**Table 3**

*Standardised Factor Loadings for Regulation Strategies*

| Item number | Stem | *M*, SD | Skewness (Kurtosis) | Factor 1 (ENG) | Factor 2 (REJ) |
|---|---|---|---|---|---|
| AE2 | Saying to Michael that his procrastination will not lead him to win the competition. | 4.340<br>0.607 | -1.508<br>3.143 | **.582** | .082 |
| AE 3 | Commenting to David to think about his rudeness for not listening. | 4.027<br>0.653 | -1.69<br>2.294 | **.514** | -.109 |
| AE 5 | Say to Isaiah to think about what will happen to his family because of his behaviour. | 4.143<br>0.923 | -1.279<br>1.303 | **.320** | 143 |
| POF 1 | Showing your annoyance towards Ruth. | 4.278<br>0.630 | -1.467<br>3.149 | .007 | **.400** |
| POF 4 | Replying in an angry tone every time Rachel talks to you. | 2.167<br>1.435 | 0.656<br>-0.824 | -.425 | **.550** |
| POF 5 | Getting mad at Isaiah for not listening to you. | 3.597<br>1.303 | -0.709<br>-0.358 | .040 | **.576** |
| POF 6 | Getting mad at Patricia for ignoring you. | 2.839<br>1.634 | -0.023<br>-1.277 | .211 | **.501** |

*Note*. AE = Affective Engagement; POF = Putting Own Feelings First; *M* = Mean; ENG = Engagement; REJ = Rejection

## Discussion

Given the lack of measures of affect worsening, the purpose of the study reported in this chapter was to develop a scale that could assess the motives and strategies that people use to make others feel bad. For the formulation of the items aimed at measuring people's

motives, the theoretical frameworks of Tamir (2016) and Niven (2016) were used as a foundation by looking at three specific motives - instrumental, altruistic, and conformity. For the formulation of the items aimed at evaluating regulation strategies, three categories proposed in the Interpersonal Affect Classification (Niven et al., 2009) were evaluated (i.e., affective engagement, putting own feelings first, rejecting others' emotions).

Based on the results, the items proposed to measure motives loaded according to the scenario leading to a non-interpretable and non-meaningful solution. People's responses for instrumental, conformity, and altruistic motives loaded on a single factor for each scenario. This can suggest that people have potentially mixed motivations when engaging in ER, particularly when the motives result in the same emotion goals (Tamir, 2016). Consequently, motives can overlap with one another. However, the fact that items are grouped by scenario seems to suggest an issue with the method used. Therefore, future research may benefit from using a different approach such as classical test theory (Fan, 1998) or item response theory (Harvey & Hammer, 1999) where items are formulated as assertions without being ascribed to a specific scenario, and participants will be able to directly answer the items without having to put themselves as the character in the situations presented.

With regards to the regulation strategies, the obtained solution through the exploratory factor analysis did not provide support to the specific categories in the Interpersonal Affect Classification (Niven et al., 2009). Alternatively, it supported the super-ordinal distinction between engagement and rejection strategies, as a two-factor solution was obtained in which items of 'affective engagement' loaded on one factor whereas items of 'putting own feelings first' loaded on a different factor. This classification aligns with the separation into engagement strategies (i.e., those that further elaborate the target's emotional response) versus diversion strategies (i.e., those that dismiss or exacerbate the target's emotional response; Parkinson & Totterdell, 1999). This distinction has found empirical support in

recent questionnaires evaluating both intrapersonal (Olderbak et al., 2021) and interpersonal (MacCann et al., 2023; Walker et al., 2023) affect improvement. In addition, Engagement entails achieving an outcome that would benefit others in the long run (e.g., change of unpleasant behaviour). Rejection, on the other hand, can be maladaptive in nature as it only puts people's own feelings first, without even giving others the chance to contemplate their (i.e., others) behaviour. That being so, the main motivation for using rejection may not be the three motives, but outrightly having counter-hedonic reasons (i.e., just increasing negative emotions for the sake of increasing negative emotions; Niven, 2016; Tamir, 2016). Overall, this seems to suggest that while for affect improvement there seems to be a clearer distinction between the strategies (actions) and motives (means), in affect worsening they seem to be more interwoven with each other.

**Limitations and Future Research**

Although this study was able to establish the initial structure of IAWS, it is not without limitations. First, although an appropriate structure has been identified for the regulation strategies, the reliability found is not high, and therefore, more data needs to be collected to better understand whether the solution found is psychometrically sound. In this regard, further study of the validity is needed to understand the potential utility of the questionnaire and the differences between engagement and rejection. Second, the measurement of regulation motives did not work as expected. Therefore, future research should still aim at assessing the regulation motives. Finally, the sample of the study might not be entirely representative (i.e., students with a large proportion of women) so more diverse samples (i.e., cultural background; age) are needed to understand the generalisability of the obtained findings.

## Conclusion

Although the assessment of motives did not work as initially proposed, the evaluation of regulation strategies suggested a two-factor solution that was deemed not only theoretically but methodologically sound (Appendix A). Based on this aspect, Chapters 3 and 4, include studies that assess the validity of the questionnaire (i.e., confirmatory factor analysis, construct and criterion validity, measurement invariance) to better understand the distinctiveness between Engagement and Rejection strategies.

## Chapter 3: Validating the Interpersonal Affect Worsening Scale (IAWS)

Based on the results of Chapter 2, only the 2-factor structure was found for strategies, capturing the super-ordinal categories suggested in the Interpersonal Affect Classification (Interpersonal Affect Classification, Niven et al., 2009). Although the obtained structure was found to be theoretically sound; further tests were needed to assess the validity of the IAWS. Therefore, the purpose of this chapter was to evaluate whether the obtained factor structure could be replicated with a different sample through a Confirmatory Factor Analysis (CFA), while also assessing the link between the IAWS scales and different measures to evaluate its construct and criterion validity.

### Construct Validity of IAWS

Before outlining the possible patterns of correlations, it is important to highlight the difference between the two scales of the IAWS: while *engagement* refers to actions aimed to make others feel bad with the goal to make them reflect on their behaviour and consequences, *rejection* entails actions aimed to hurt others. Following previous research (Olderbak et al., 2021; Parkinson & Totterdell, 1999; Walker et al., 2023), rejection is clearly counter-hedonic, engagement in contrast can be instrumental or altruistic, that is, it may entail making others feel bad with the goal of seeking their long-term benefit.

Considering these distinctions, in terms of construct validity, it was expected that both Rejection and Engagement would correlate positively with the subscale of extrinsic affect worsening of the EROS as it describes a general tendency to make others feel bad (Niven et al., 2009). In addition, it was expected that Engagement would be positively linked with extrinsic affect improvement as this regulation strategy is implemented to seek the well-being of the other and this can be linked with a tendency to make others feel good (even if it is not in the short term) (Niven et al., 2009). Concerning the specific regulation strategies, given that the antecedent-focused strategies (situation modification, cognitive change, attention

deployment) were found to be mainly adaptive, whereas modulation of the emotional response is mainly maladaptive (Gross, 2002; Little et al., 2012; López-Pérez et al., 2019), it was expected that Engagement would be linked to antecedent-focused strategies whereas Rejection would be linked to modulation of the emotional response.

**Criterion Validity of IAWS**

The link between other *inter*personal ER scales, empathy, emotion problems, prosociality, Machiavellian personality, and IAWS were tested. Empathy and prosociality are defined as other-oriented processes aimed to improve other people's well-being (Batson, 2011). Given that Engagement entails undertaking affect worsening to make others aware of their wrongdoings (so that they can correct them), as opposed to Rejection which entails affect worsening with the ultimate aim of hurting others; it was expected that Engagement would be positively linked with prosociality and empathy as Engagement parallels with deeds that will benefit others (Caprara et al., 2012), and agents engage in affect worsening because they are feeling empathic towards their targets (López-Pérez et al., 2017) helping them to achieve their desired outcomes. On the other hand, Rejection represents the opposite of empathy and prosocial behaviour as the purpose is to harm the feelings of others. Hence, a negative link between these constructs and Rejection was hypothesised. Considering emotion problems and Machiavellianism, andthat these represent maladaptive characteristics (Aïn et al., 2013), it was hypothesised that they would be positively linked with Rejection and negatively linked with Engagement.

**Assessment Invariance across Different Cultural Groups**

affect worsening can be influenced by culture as it can affect how people experience, and express emotions (Barret, 2012; Mesquita & Frijda, 1992; Mesquita et al., 2017). Given the influence that culture can have on affect worsening, in the current study participants from the United Kingdom (UK) and the Philippines (PH) were compared. The individualism-

collectivism (IC) is considered to be the most salient dimension that differentiates cultures historically and cross-culturally (Triandis, 2001), hence, IC is a salient factor to look into in terms of interpersonal affect worsening because of the differing focus of IC on personal and group interest (Hofstede, 2001). For instance, in individualistic cultures, people emphasise their attitude as the source of their own behaviours, while in collectivist cultures, the values of what the group believe to be important guides the basis of one's own behaviour (Triandis, 2001; Wagner, 1995). The dimension of power distance can also play a role in interpersonal affect worsening as it focuses on the unequal distribution of power (Hofstede, 2011), not only in political institutions but as well as in social relationships such as family, peers, and school/work (Clark, 1990). This means that even in relational interaction, people follow those who are believed to have the authority and power. These two countries were selected given that the UK is characterised by high levels of individualism (Islam et al., 2006; Tynan et al., 2010), and low levels of power distance. On the other hand, PH is characterised by high levels of collectivism and power distance (Rodriguez, 2008; Rodriguez & Hechanova, 2014).

Since these dimensions play an important role in the way people socialise with others (Alas, 2006) having samples from these two countries was considered appropriate to further study not only whether the questionnaire can be used in different groups but also to understand whether there might be potential cultural differences in the affect worsening regulation strategies of Engagement and Rejection. Based on prior research, it was hypothesised that UK participants may score higher in Engagement as people are encouraged to practise their individuality while also viewing relationships as equal, and frequently use reappraisal and discourage suppressing feelings (Matsumoto et al., 2008; Ramzan & Amjad, 2017). On the other hand, a higher use of Rejection was expected for participants in the PH, as collectivist cultures put salience on appropriateness (Yang et al., 2014), which can lead to

the use of correcting behaviour which may include confrontation or punitive discipline (Deyoung & Zigler, 1994; Matsumoto, 2007; Taylor & Oskay, 1995).

### The Present Chapter

Based on the results of the EFA conducted in Chapter 2, the current chapter aimed to further evaluate the psychometric properties of the IAWS. In detail, both construct and criterion validity will be assessed to determine if the items in each factor of the IAWS indeed evaluate Engagement and Rejection strategies as supported by the theoretical underpinning of the Interpersonal Affect Classification (Niven et al., 2009), and to compare IAWS with other established measures. In addition, a measurement invariance test will be carried out on samples from the UK and the PH. If assessment invariance is obtained, a test of difference will be conducted to evaluate how the samples from these two countries might differ in the regulation strategies of Engagement and Rejection.

## Method

### Participants

The participants for this study were recruited from two countries, the UK and the PH to consider the aptness of using the IAWS in different cultural backgrounds. The total 582 participants that were recruited were adults aged 18 to 86 years old (*M*age = 33.16, SD = 13.39) with 66.90% females. Specifically, 361 participants from the UK were recruited via Prolific (https://prolific.co). Their age ranged from 18 to 86 (*M*age = 35.62, SD = 14.06) composed of 63.80% females. The participants were White (85.40%), Asian/Asian British (5.20%), Black British/Black/Caribbean (3.50%), and Multi-ethnic (1.70%), and there were 4.20% did not indicate their ethnicity. There were 49.20% employees, 26.70% students, and 24.10% unemployed/looking for a job, unable to work, or already retired. The use of Prolific in collecting data is comparable with data gathered in laboratories (Peer et al., 2017). With the advent of online crowdsourcing (i.e., use of service, ideas, and content from a group

of people online), Prolific can be used to recruit participants large participants with diverse age groups (López-Pérez et al., 2021; Turner et al., 2021).

The 221 participants from the Philippines were recruited from various higher education institutions and civic organisations. The ages of the participants were from 18 to 66 (*M*age = 27.24, SD = 12.89), and composed of 73.10% females. One percent of the participants were from other ethnicities such as White and Black/Caribbean, while the rest were Filipino (i.e., Asians). In contrast to the UK sample, most of the participants were students (48.40%), employees (39.40%), with further (12.56%) who were unemployed, unable to work, or retirees. As with the UK, the samples from the PH were intended to be recruited through Prolific. However, since Prolific is not widely used in the PH, it was not possible to recruit participants via the same platform, hence, the recruitment process was conducted via universities and social groups. The sample size for this study was determined by following the suggested sample size of 30 to 460 participants for a two-factor CFA loading at .50 (Wolf et al., 2013).

**Measures**

**Emotion Regulation of Others and Self** (EROS; Niven et al., 2011). Two out of the four scales, 9 items in total, to assess extrinsic affect improvement and affect worsening were included in the current study. Extrinsic affect improvement is a 6-item scale that assesses the tendency to deliberately attempt to improve another person's feelings (e.g., "I listened to someone's problems to improve their mood"; UK ω = .88, PH ω = .85, overall (UK and PH combined ω = .86 in this study). Extrinsic affect worsening is a 3-item scale which evaluates the tendency to deliberately attempt to worsen others' feelings (e.g., "I told someone about their shortcomings to try to make them feel worse"; UK ω = .74, PH ω = .61, overall ω = .67 in this study).

**Interpersonal Emotion Management** (IEM; Little et al., 2012). This 20-item questionnaire assesses, through four different scales the tendency to use certain strategies to improve others' feelings: situation modification (i.e., removing or altering a problem to reduce the emotional impact; e.g., "I change the situation to alter its emotional impact"; UK ω = .63, PH ω = .67, overall ω = .65 in this study), attentional deployment (i.e., directing the target's attention to something more pleasant; e.g., "I distract others' attention from aspects of the problem causing undesired emotions"; UK ω = .74, PH ω = .78, overall ω = .77 in this study), cognitive change (i.e., reappraising a situation as more positive; e.g., " When I want others to feel more positive emotions, I put their problems into perspective"; UK ω = .79, PH ω = .74, overall ω = .78 in this study), and modulating the emotional response (i.e., suppressing emotional responses; e.g., "I encourage others to keep their emotions for themselves"; UK ω = .81, PH ω = .85, overall ω = .84 in this study).

**Interpersonal Reactivity Index** (IRI; Davis, 1983). This 28-item questionnaire evaluates people's tendency to use cognitive (i.e., perspective-taking and fantasy) and affective empathy (i.e., personal distress and empathic concern) for others. In the current study, the focus was on Empathic Concern (e.g., "often have tender, concerned feelings for people less fortunate than me"; UK ω = .67, PH ω =.66, overall ω = .83 in this study), Personal Distress (e.g., "When I see someone who badly needs help in an emergency, I go to pieces", UK ω = .78, PH ω = .72, overall ω = .77 in this study), and Perspective-taking (e.g., "I try to look at everybody's side of a disagreement before I make a decision", UK ω = .79, PH ω = .65, overall ω = .90 in this study) on a 5-point scale (1 = does not describe me well to 5 = describes me very well). The Fantasy subscale was not included as it measures the tendency to imagine themselves as fictitious characters from books or movies and did not assess interpersonal interaction. Therefore, it was not deemed relevant for the current study.

**Strengths and Difficulties Questionnaire** (Goodman, 2001). This 25-item questionnaire evaluates behavioural problems, emotion difficulties, and prosocial behaviour. In this study, only people's tendency to experience emotion problems (e.g., "I am often unhappy, depressed or tearful"; UK ω = .81, PH ω = .82, overall ω = .81 in this study), and the tendency to be prosocial (e.g., "I am helpful when someone is hurt"; ω = UK ω = .73, PH ω = .73, overall ω = .65, overall ω = .72 in this study) were measured to take into account both the negative and positive attributes on a 5-point Likert Scale (1 = totally disagree to 5 = totally agree).

**Machiavellianism Personality Scale** (MPS; Dahling et al., 2009). It is a 20-item questionnaire that evaluates people's distrust of others (i.e., the tendency to be sceptical about the intentions of others; e.g., "I dislike committing to groups because I don't trust others"; UK ω = .84, PH ω = .80, overall ω = .81 in this study), amoral manipulation (i.e., the tendency to disregard moral principles for benefiting oneself; e.g., "I believe that lying is necessary to maintain a competitive advantage over others"; UK ω = .78, PH ω = .84, overall ω = .81 in this study), desire for control (i.e., the tendency to be dominant; e.g., "I enjoy having control over other people"; UK ω = .80, PH ω = .70, overall ω = .75 in this study), and desire for status (i.e., the tendency to achieve power and status; e.g., "I want to be rich and powerful someday"; UK ω = .83, PH ω = .83, overall ω = .83 in this study). In this study, an overall score of Machiavellianism was computed as there were no specific hypotheses for each of the subscales but for the overall construct.

**Data Cleaning and Analysis**

Before doing different analyses, exclusion criteria were set for data cleaning. This was to ensure that the results would be accurate and reliable (Chu et al., 2016). The responses that were removed from the data set were those that had more than 50% missing answers, highspeed completion of the whole questionnaire (i.e., five minutes or less), and responses

that displayed acquiescence bias (i.e., consistently selecting only one option throughout the survey). MPlus8 (Muthén & Muthén, 2017) was used to conduct a Confirmatory Factor Analysis (CFA) with Maximum Likelihood (ML) as an estimator to examine the fit of the two-factor structure (i.e., Engagement, Rejection) found in Study 2. ML was chosen as it is considered to show good statistical properties: maximally efficient, unbiased, represents normality, consistent, and asymptomatic (Li, 2015; Myung, 2003). In addition, MLE is fundamental for modelling random effects and chi-square tests (Myung, 2003). RMSEA, CFI (Comparative Fit Index; acceptable fit at values over a .90 threshold; Bentler & Bonett, 1980; and an excellent fit at .95; Hu & Bentler, 1999) and TLI with the same criteria for model fit assessment were used as the GOF indices.

Measurement invariance testing was also conducted to know if the factors of the IAWS were interpreted the same way across groups (i.e., the UK and the Philippines). Testing the invariance of the IAWS would provide support for its applicability to different groups of people. The first step that was conducted was configural invariance where the factor loadings and the intercepts were estimated freely except for the first items of each factor (i.e., AE2 and REJ1), which were held constant at 1 and 0. Next, the test of metric invariance was done by constraining the factor loadings of the items across the two groups (i.e., UK, PH) to identify whether the items load the same or are equal across the groups. Finally, scalar (or strong) invariance was evaluated by requiring the factor loadings and intercept to be equal in both groups. To assess the validity of the scales, the factors of the IAWS were then correlated with other questionnaires (i.e., EROS, IEM, IRI, SDQ, and MPS) to test the construct and criterion validity.

## Results

### Validating the Factor Structure for Regulation Strategies

The results of the CFA supported the two-factor structure in the UK (TLI = 1, RMSEA = .00, 90% CI .00 to .05), and PH (TLI = .97, RMSEA = .03, 90% CI .00 to .08). The factor loadings are reported in Table 4.

**Table 4**

*Standardised CFA Loadings for Regulation Strategies*

| Factors | Item | Estimate | S.E. |
|---|---|---|---|
| Engagement | AE 2 | .424*** | .065 |
| | | .692*** | .068 |
| | AE 3 | .756*** | .089 |
| | | .586*** | .067 |
| | AE 5 | .488*** | .067 |
| | | .643*** | .069 |
| Rejection | POF 1 | .550*** | .053 |
| | | .452*** | .073 |
| | POF 4 | .683*** | .071 |
| | | .650*** | .053 |
| | POF 5 | .622*** | .052 |
| | | .590*** | .072 |
| | POF 6 | .453*** | .056 |
| | | .504*** | .070 |
| | ENG with REJ | .144 (*ns*; p=.075) | .081 |
| | | -.031 (*ns*; p=.763) | .102 |

*Note.* ***p<.001; Factor loadings in the first row of the Estimate column corresponds to the UK, the second row to PH.

All the factor loadings were greater than the cut-off mark value of .03, which ranged from .424 to .756 (UK), and .586 to .692 (PH) for engagement. And as for rejection, the

factor loadings were from .453 to .683 (UK), and .452 to .650 (PH). In addition, these values show that the items included in each factor are moderately to highly correlated with the factors they belong to (i.e., Engagement and Rejection, respectively) showing that the two-factor model for the IAWS was validated in two different samples from different cultural backgrounds. In terms of the correlation between the two factors, results yielded a non-significant link for both the UK and PH samples. This supports findings from Study 2 that individuals tend to use either Engagement or Rejection when worsening others' affect, and not both.

Although the separate CFAs demonstrated the fit of the 2-factor was good in the two samples (UK and PH), it is necessary to investigate whether there is measurement invariance to assess whether the items are comparable in the samples from two different cultural contexts. To evaluate the invariance of the scales of the IAWS, three nested models were considered (Millsap, 2011) by imposing increasingly restrictive constraints on the factor loadings (λ, lambda) and intercept (θ, theta) of the items of the two IAWS. First, a configural invariance model was evaluated in which λ and θ were freely estimated across the two cultural groups except for the marker item "Saying to Michael that his procrastination will not lead him to win the competition" and "Showing your annoyance towards Ruth" in which they were fixed to be $\lambda = 1$ and $\theta = 0$ (Steenkamp & Baumgartner, 1998), as these items were the first items for each subscale. Second, metric (weak) invariance was evaluated in which λs of the items were constrained to be equal across groups to assess whether the IAWS ranked participants based on their engagement and rejection the same way in the UK and the PH. Finally, scalar (strong) assessment invariance was evaluated by imposing both λs and θs to be equal across the two cultural groups to allow comparison of the level of latent means (Vandenber & Lance, 2000). To test whether configural, metric, and scalar invariance differed, $\chi^2$ test as well as changes in CFI (ΔCFI) with a critical level of 0.01 (Cheung &

Rensvold, 2002). As can be seen in Table 5, the scales of the IAWS reached configural, metric, and scalar invariance allowing for comparing both samples. An independent sample t-test showed that the two samples only differed in Engagement, with the PH showing higher use of Engagement strategies ($M$ = 4.021, SD =.695) than the UK sample ($M$ = 3.891, SD = .766; t(550) = -2.032, $p$ = .03, d = .739). On the other hand, there was no significant difference in Rejection for the UK ($M$ = 2.123, SD = .772) and PH samples ($M$ = 2.183, SD = .724; t(550) = -.916, $p$ = .44, d = .753).

**Construct Validity**

The construct validity was assessed by performing correlations between factors of the IAWS and the EROS using the samples from the UK and PH, and a combination of both countries. Table 6 shows the descriptive, and intercorrelation among the factors.

Results showed that for the overall sample (i.e., the combination of both countries), the hypothesised relations mentioned earlier were supported as Engagement and Rejection had weak positive correlations with extrinsic affect worsening. In terms of Engagement and extrinsic affect improvement, in all the samples, there was a weak positive correlation, which supported the hypothesised link between them. On the other hand, Rejection had a weak correlation with extrinsic affect worsening, but it was not significantly correlated with extrinsic affect improvement. The hypothesised relations between Engagement and IEM were also supported, particularly, Engagement and IEM-SM, IEM-AD, and IEM-CC had weak positive correlations. As for Rejection and IEM-MER, there was also a weak positive correlation for all the samples. Overall, the obtained patterns are in line with the results in Chapter 2 providing further validity to the IAWS.

Specific results of the countries showed varying results. For instance, E-affect worsening did not correlate with either factor of IAWS in the UK, while for the PH, only Rejection correlated with E-affect worsening. In addition, Engagement and IEM-A correlated

for the PH, but not in the UK sample. These results somewhat show the importance of comparing different countries as cultures can differ in how they deal with emotions and their expression (Mesquita & Frijda, 1992; Mesquita et al., 1997).

**Table 5**

*Measurement Invariance of IAWS Across Participants from PH and the UK*

| affect worsening Scale | χ2 | *df* | *scf* | p | CFI | TLI | RMSEA (90% CI) | SRMR | MC | $\Delta\chi^2$ | Δdf | *p* | ΔCFI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Configural | 32.911 | 26 | .994 | .106 | .975 | .957 | .037 (0.000-0.007) | .038 | | | | | |
| 2. Metric | 35.964 | 31 | 1.023 | .174 | .981 | .972 | .029 (0.000-0.057) | .042 | 2 vs. 1 | 3.053 | 7 | .540 | .006 |
| 3. Scalar | 49.823 | 36 | 1.013 | .039 | .956 | .946 | .041 (0.010-0.064) | .048 | 3 vs. 2 | 13.319 | 5 | .075 | -.025 |

In addition to the χ2, the following fit indexes are reported: Comparative-fit-index (CFI); Tucker-Lewis-Index (TLI); Root-mean-square-error-of-approximation (RMSEA) with 90% confidence intervals (CI); Standardized-Root-Mean-Square-Residual (SRMR).
*df* = degrees of freedom; *scf* = scaling correction factor; MC = model comparison

**Table 6**

*Mean, SD, and Intercorrelation Among IAWS, EROS and IEMS Subscales*

| Scales | *M* | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| **1. Engagement** | 3.952 | .712 | - | | | | | | | |
| | 4.021 | .695 | - | | | | | | | |
| | 4.988 | .703 | - | | | | | | | |
| **2. Rejection** | 2.121 | .780 | **.234**** | - | | | | | | |
| | 2.183 | .724 | **.243**** | - | | | | | | |
| | 2.154 | .751 | **.140**** | - | | | | | | |
| **3. Extrinsic Affect Worsening (E-AW)** | 1.746 | .732 | .003 | .125 | - | | | | | |
| | 1.973 | .779 | .093 | **.297**** | - | | | | | |
| | 1.865 | .765 | **.097*** | **.211**** | - | | | | | |
| **4. Extrinsic Affect Improvement (E-AI)** | 3.883 | .779 | **.199**** | **-.168*** | **.217**** | - | | | | |
| | 4.017 | .694 | **.169*** | -.104 | .044 | - | | | | |
| | 3.953 | .737 | **.229**** | .023 | **.140**** | - | | | | |

| Scales | *M* | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| **5. IEM Situation Modification (IEM-SM)** | 3.773 | .462 | .088 | -.072 | .069 | .395** | | | | |
| | 3.793 | .513 | .118 | -.008 | -.043 | .305** | | | | |
| | 3.782 | .489 | .105* | -.037 | .010 | .347** | | | | |
| **6. IEM Attention Deployment (IEM-AD)** | 3.751 | .617 | .071 | **-.151*** | .083 | .276** | .366** | - | | |
| | 3.579 | .698 | **.208**** | .099 | .006 | .277** | .303** | - | | |
| | 3.661 | .665 | **.138**** | -.023 | .019 | .258** | .324** | - | | |
| **7. IEM Cognitive Change (IEM-CC)** | 3.463 | .757 | .112 | .107 | .082 | .174* | .158* | .197** | - | |
| | 3.754 | .645 | .112 | .131 | .243 | .013 | .024 | .005 | - | |
| | 3.615 | .715 | **.141**** | .081 | .025 | .195** | .220** | .213** | - | |
| **8. IEM Modulating Emotion Response (IEM-MER)** | 1.673 | .707 | -.061 | **.215**** | **.181**** | -.141* | -.108 | -.066 | .093 | - |
| | 1.921 | .838 | -.080 | **.291**** | **.220**** | -.213** | -.086 | .115 | -.018 | - |
| | 1.802 | .787 | -.063 | **.257**** | **.222**** | -.159** | -.090 | .020 | .065 | - |

*Note*. *p<.05; **p<.01; Correlations reported in the first row correspond to the UK, the second row to PH, and the third row to the overall sample; IEM = Interpersonal Emotion Management

**Criterion Validity**

Table 7 contains the descriptive statistics and intercorrelations among the various measures (i.e., IEM, IRI, SDQ, MPS) and the IAWS.

**Table 7**

*Mean, SD, and Intercorrelations Among IAWS and Different Scales*

| Scales | *M* | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| **1. Engagement** | 3.952 | .712 | - | | | | | |
| | 4.021 | .695 | - | | | | | |
| | 4.988 | .703 | - | | | | | |
| **2. Rejection** | 2.121 | .780 | **.234**$^{**}$ | - | | | | |
| | 2.183 | .724 | **.243**$^{**}$ | - | | | | |
| | 2.154 | .751 | **.140**$^{**}$ | - | | | | |
| **3. Empathy** | 2.633 | .196 | **.154**$^{*}$ | .054 | - | | | |
| | 3.542 | .386 | **.168**$^{*}$ | **.229**$^{**}$ | - | | | |
| | 3.097 | .550 | **.107**$^{*}$ | .078 | - | | | |
| **4. Emotion Problems** | 3.193 | .962 | -.086 | -.104 | -.092 | - | | |
| | 3.030 | .956 | .090 | .110 | -.035 | - | | |
| | 3.108 | .962 | .000 | .000 | -.071 | - | | |
| **5. Prosociality** | 4.196 | .558 | **.169**$^{*}$ | -.055 | .212$^{**}$ | .066 | - | |
| | 4.181 | .522 | **.203**$^{**}$ | -.086 | .317$^{**}$ | .123 | - | |
| | 4.188 | .539 | **.185**$^{**}$ | -.071 | .263$^{**}$ | .025 | - | |
| **6. Machiavellian Personality** | 2.493 | .609 | .026 | .258$^{**}$ | .151$^{*}$ | .116 | .091 | - |
| | 2.590 | .588 | **.140**$^{*}$ | **.263**$^{**}$ | -.021 | .219$^{**}$ | .337$^{**}$ | - |
| | 2.542 | .600 | .087 | **.261**$^{**}$ | .070 | .134$^{**}$ | .204$^{**}$ | - |

*Note*. *p<.05; **p<.01; Correlations reported in the first row correspond to the UK, the second row to PH, and the third row to the overall sample

Results showed that empathy had a weak positive correlation with Engagement in the UK and PH samples, while Rejection and empathy were also weakly positively correlated in the PH sample. With regards to emotion problems, it did not correlate with Engagement and

Rejection either in the UK or in the PH samples, while prosociality had a weak positive correlation with Engagement in both the UK and PH samples.

Although Rejection was found to be uncorrelated to emotion problems, there were positive correlations between Rejection and Machiavellian personality in the UK and the PH. These warrant the idea that Rejection is more likely to be associated with more unpleasant interactions by dismissing others, or not caring about others' feelings (Niven et al., 2009). Albeit not attaining negative correlations (i.e., Engagement, emotional problems, Machiavellian personality; Rejection, empathy, and prosociality), the non-significant correlation would also reveal that contrasting constructs of established measures were indeed not related to the factors of IAWS. In addition, same with the earlier findings for the EROS, there were differences between the strength of correlations in the individual samples (i.e., the UK, PH). Specifically, empathy correlated positively with rejection in PH, but not in the UK, and PH had a positive correlation between Engagement and Machiavellian personality while no correlation between the two was found for the UK sample.

## Discussion

This chapter provided further empirical support for the two-factor model of IAWS as the CFA for two different cultural groups had acceptable goodness-of-fit indices. The test of measurement invariance also yielded good results showing that the items of the IAWS were interpreted in the same way by participants in the UK and PH and allowing for running comparisons between the groups.

Construct validity was overall supported as Engagement had a positive link with extrinsic affect improvement and Rejection was positively correlated with extrinsic affect worsening of the EROS, a measure that directly taps into the general tendency to engage in interpersonal ER. As for IEM, which is a questionnaire that looks into affect improvement strategies, Rejection exhibited positive correlations with Modulation of Emotion Response

(i.e., suppression), while the overall sample (i.e., the combination of the UK and PH) for cognitive change was positively correlated with Engagement. The correlations between IAWS and other constructs such as empathy, emotion problems, prosociality, and Machiavellian personality supported the expected relations providing evidence of criterion validity. The obtained results suggest that Engagement might be potentially more adaptive than Rejection. This separation into Engagement and Rejection is interesting as it is possible that Rejection may be more dominant then in those groups that struggle particularly in their social interaction.

In addition, the obtained solution for the regulation strategies seems to suggest that motives are somehow present in the (obtained) strategies. While Engagement seems to be done with the goal to teach or correct maladaptive behaviour in others, entailing potentially an altruistic motive; Rejection is done with the goal to hurt or harm others, entailing a counter-hedonic motivation (Niven, 2016). Therefore, while theoretically in affect improvement it is indeed possible to separate motives and strategies (López-Pérez et al., 2016), in affect worsening they may be more interrelated than originally thought, as anticipated in Chapter 2.

Finally, regarding assessment invariance, the IAWS can be used by various groups of people as it highlights those individuals from two different cultural backgrounds, had the same interpretations of Engagement and Rejection items allowing therefore the comparison of both samples in those scales. Therefore, the attained similarity and distinction between the strategies of the UK and the PH are reliable. In particular, both groups did not differ with the use of the Rejection strategy, however, the link between Rejection and empathy in the PH sample can be explained as collectivist cultures give emphasis on having a sense of duty towards others (Hussein, 2022) showing that their use of Rejection goes beyond just inflicting negative emotions on others. However, it was interesting to note that the PH group showed a

higher use of Engagement than the UK when collectivists are more likely to use suppression. One of the possible reasons for this is that putting right others' unruly behaviour is an expression of adherence to promoting social order in collectivist societies (Chen et al., 1997; Taylor & Oskay, 1995).

**Limitations and Future Research**

Although this chapter suggested a two-factor model in the assessment of interpersonal affect worsening, it is not without limitations. The IAWS is a self-report measure which can allow participants to not fully disclose their true responses due to social desirability bias. Although the scale was applied in two different cultural contexts, specific cultural dimensions were not evaluated to understand to what extent the groups differed in those (e.g., individualism-collectivism or power distance) and whether these may shape people's levels of engagement and rejection. Given that taking countries as a proxy for cultural dimensions has been criticised (Inglehart & Welzel, 2001; Ralston et al., 2007), future research should consider the evaluation of cultural dimensions to better understand the role of culture in interpersonal affect worsening. Some of the cultural dimensions that may be relevant are masculinity (i.e., being assertive and competitive) vs. femininity (i.e., being caring and modest), as these dimensions can entail interpersonal transactions. Lastly, this study did not include individuals who may be experiencing difficulty in handling relationships and emotions. For example, it is known that people with borderline personality disorder (BPD) are characterised by emotion dysregulation (Glenn & Klonsky, 2009; Putnam & Silk, 2005), struggling in their social interactions (Lis & Bohus, 2013; Stepp et al., 2009), and having suspicion of others' intentions (Fonagy et al., 2017). Hence, they could be anticipated to use more Rejection than Engagement strategies. Therefore, future research should also look into the strategies that clinical samples use to know how they engage in interpersonal affect worsening.

## Conclusions

The obtained results suggest that Engagement and Rejection strategies are shown to be two very different regulation strategies with the first being more adaptive than the latter. In addition, social factors, in which individuals are embedded, can influence the interpersonal affect worsening strategies that are being used. In the next chapter, personal factors, specifically age, will be investigated given that research on intrapersonal ER has highlighted important differences between young and older adults' emotionality and emotion regulation skills that could potentially be mirrored in the interpersonal domain.

## Chapter 4: Age Differences in Interpersonal Affect Worsening

The results from Chapter 3 provided further support to the IAWS, by confirming the two-factor structure, as well as exhibiting measurement invariance in two different samples from the UK and the Philippines. In this chapter, another measurement invariance will be conducted to test the suitability of IAWS in different adult age groups, considering therefore an important personal factor such as age. It was deemed important to ascertain this, given that age differences have been described in the emotion regulation literature (Blanchard-Fields & Coats, 2008; Labouvie-Vief et al., 1989; Orgeta, 2009). Despite the extant studies looking at young and older adults' use of intrapersonal regulation strategies (Blanchard-Fields et al., 2004; Isaacowitz et al., 2008; Phillips et al., 2008), very little is known about potential differences in the interpersonal domain (Gurera et al., 2022; Niven, 2022). Therefore, another aim of this chapter was to investigate whether there were possible age differences (i.e., younger, and older adults) in the use of Rejection and Engagement *inter*personal affect worsening strategies.

### Age Differences in Emotion Goals and Motivation

Emotion regulation is dictated by the emotions people would like to feel (Tamir, 2016). Hence, researchers have investigated what emotions young and older adults want to experience to better understand whether they differ in their emotionality and their emotion regulation skills (Isaacowitz & Smith, 2003; Mroczek, 2001; Mroczek & Kolarz, 1998). Studies looking at emotionality have shown that older adults have more stable and positive emotion experiences than their younger counterparts (Carstensen et al., 1999; Charles et al., 2009; Mroczek & Kolarz, 1998). This can be due to older adults being better at controlling their negative emotions (Gross et al., 1997), which can lead them to be less angry (Schieman, 1999), and anxious (George et al., 1998) compared to their younger counterparts. It is also suggested that since time can influence goals and motivations (Carstensen, 1992; Carstensen

et al., 1999), this can play a role in the differences in emotion experiences found between younger and older adults. Specifically, it is argued that their perception of time can influence how they prioritise certain relationships and activities (Carstensen et al., 2003; Fung et al., 2001; Lang & Carstensen, 2002). Specifically, younger adults' unlimited outlook on time leads them to engage in accumulating knowledge, developing skills, and creating social contacts even if it can result in unsatisfactory or unpleasurable emotions (i.e., Carstensen et al., 2003). For example, younger adults looking to expand their horizons are willing to be stressed in exchange for a better opportunity. On the other hand, older people's restrained view of time (e.g., running out) leads them to pursue emotionally meaningful goals (i.e., goals related to feelings) that have immediate results (e.g., feeling good; Carstensen et al., 2003). In addition, emotionally meaningful goals usher them to focus on the quality of social relations and to derive meaning and appreciation of life (Carstensen, 1992; Carstensen et al., 2003). For instance, older people engage themselves with social connections that will make them happy to conserve emotional resources rather than build new social relationships (Fredrickson & Carstensen, 1990).

Both knowledge goals and emotionally meaningful goals can influence emotion regulation as well. Depending on what goals people pursue, individuals will focus on emotions or emotion experiences that would help satisfy the achievement of their aspirations (Carstensen et al., 2003). Research looking at emotion goals (i.e., what emotions people would like to feel) found that although older adults reported lower negative affect, they did not differ in their emotion goals compared to their younger counterparts. However, a higher preference for happiness was positively linked to higher well-being across young, middle, and older adults (López-Pérez & McCulloch, 2020).

Differences in the goal pursuit between younger and older adults can affect how they regulate emotions. Carstensen and colleagues (2003) suggested since older adults become

more selective with their social network, they become better at ER. This may be due to different factors. On the one hand, their focus on deriving meaningful experiences can lead them to exert more effort in regulating emotions (Carstensen et al., 2003; Niven, 2022). On the other hand, being able to apply the accumulated experience and expertise they have learned throughout their lifetime can also aid them in regulating their and others' emotions (Niven, 2022). In a review conducted by Niven (2022), older adults were described as having higher awareness when others need regulation and being better at deciding what approach should be used to change how others feel. It is important to highlight that this review was predominantly focused on affect improvement and as such seems to suggest that older adults could be better at making others feel good. However, there was not any explicit mention of affect worsening.

**Affect Worsening in Older Adults**

Older adults' preference to be selective with their social networks can lead to limited social interactions causing feelings of loneliness (i.e., a mismatch between perceived and actual social interaction and attachment, Kemperman et al., 2019; Weiss, 1973). Studies have documented that older adults who experience loneliness show a decline in their ability to deal with and regulate negative emotions (Baumeister et al., 2005; Wong et al., 2016). This in turn, can magnify their adverse thoughts and expectations making them angry (Hazer & Boylu, 2010). It is important to note that although older adults have feelings of anger, it does not always mean that they directly retaliate. This is in line with the suggestion that rather than attack others straightaway, anger can lead individuals to be predisposed to aggression (Berkowitz, 2012; Frijda, 2004). Since older adults already have declining physical strength and are less likely to be physically aggressive (Walker & Richardson, 1998), they may resort to psychological aggression as a means to inflict negative affect on others. Psychological aggression takes the form of ridiculing, verbal threats, degrading, and hostile withdrawal

(Salis et al., 2014; Williams et al., 2012). It is also possible that they subtly inflict harm due to *schadenfreude* or taking pleasure in the misfortune or pain of others (Smith et al., 2009). Although *schadenfreude* seems to encompass being just happy or being malicious towards others' sufferings, it can also be viewed as 'justice being served' when individuals believe that others are deserving of the unfortunate event that happened (Kristjánsson, 2005; McNamee, 2007).

In the absence of loneliness or feelings of anger, older adults are also keen on using response-focused strategies (i.e., suppression, rejection) especially when dealing with situations that can cause negative emotions (Carstensen et al., 2003). Since older adults prefer positive emotion experiences, they are more likely to avoid dealing with negative emotions by disengagement, greater use of distancing, and inhibition of emotional responses (Folkman et al., 1987; Lawton et al., 1992; McConatha & Huba, 1999). However, because older adults are more flexible when dealing with emotions, they can also use antecedent-focused strategies, particularly by making use of reappraisal (i.e., engagement; Blanchard-Fields et al., 1997; Nowlan et al., 2015). This can be because of older adults' cognitive maturity causing them to have the knowledge of strategies to use when regulating emotions (Niven, 2022). Although there is no evidence known about the link between interpersonal affect worsening and the use of engagement in older adults, Opitz and colleagues (2012) found in one of their studies that both older adults and younger adults successfully used engagement to decrease their unpleasant emotions, but it was the older adults who were more successful in increasing negative emotions using reappraisal. This can also be true with interpersonal ER, as there is a high likelihood that the strategies being applied in intrapersonal ER are also being used in interpersonal ER (Gurera et al., 2002; Williams, 2007).

**The Present Research**

Aside from a theoretical paper by Niven (2022) on the possible change in

interpersonal ER abilities, most of the investigations done in adults' *inter*personal ER are on affect improvement where most of the participants are younger adults and in their mid-adulthood. Given that little is still known about the possible age difference in *inter*personal ER, specifically in affect worsening, this study is twofold: On the one hand, it further assesses the psychometric properties of the IAWS, ensuring there is measurement invariance in different age groups. On the other hand, it evaluates whether there are differences in the use of affect worsening strategies across younger and older adults. Given that older adults have been described as using more engagement to deal with their own emotions (Opitz et al., 2012), and are less likely to outwardly express anger (Phillips et al., 2006), it was hypothesised that older adults would describe themselves as using more engagement and less rejection as compared to younger adults. Moreover, it is also hypothesised that current emotions, and social relationships are related to the use of different IAWS strategies.

## Method

### Participants

Given that the study was focused on age differences, a criteria by Levinson's developmental periods (1986) was set up, and recruited participants considering that younger adults (YAs) should include participants aged 18 to 40, whereas older adults (OAs) should include participants aged 60 and above. Following the strategy of recruitment of previous studies, the samples were recruited from Prolific as this helped to obtain more diverse samples that would match the specific age requirements. Therefore, in the current study, there were 231 participants for the YAs group (*M*age = 30.42, SD = 6.00) with 51.50 % females. The ethnicity of the younger adults (i.e., YAs) was composed of White (86.10%), Asian/Asian British (9.10%), Black British/Black/Caribbean (3.00%), Multi-ethnic (.40%), and there were 1.30% did not indicate their ethnicity. The majority of the young adults were employed (75.80%).

For the older adults (i.e., OAs) group, there were 203 participants (*M*age = 65.74, SD = 5.83), and composed of 48.80% females. The participants were mostly White (96.60%), while the rest were Asian/Asian British, Black British/Black/Caribbean (1.50%), and Multi-ethnic and others (1.50%). Most of the older adults were already retired (55.20%), while 31.50% were still employed. The sample size for this chapter was determined by following the best practice of having more than 100 participants to get reliable results for the absolute model fit (e.g., RMSEA) (Putnick & Bornstein, 2016).

**Measures**

**Interpersonal Affect Worsening Scale (IAWS, 2023; Appendix A)**. This 7-item scale evaluates the different strategies that people apply in inducing negative emotions. The Engagement scale has 3-items, which measure the application of changing others' thinking to make others feel bad (e.g., "Commenting to David to think about his rudeness for not listening"; YAs ω = .51, OAs ω = .66 in this study). The Rejection scale has 4-items that assess the means of worsening others' emotions by intentionally showing exasperation towards others (e.g., "Replying in an angry tone every time Rachel talks to you."; YAs ω = .66, OAs ω = .74 in this study).

**Emotion Regulation of Others and Self** (EROS; Niven et al., 2011). Two of the subscales of this 19-item scale were used in the previous chapter. For this chapter, extrinsic affect improvement had an internal consistency of ω = .86 for YAs, and of ω = .90 for OAs. Regarding extrinsic affect worsening, the reliabilities were of ω = .68 for YAs, and of ω = .66 for OAs. In this study, the intrinsic affect improvement scale was included and evaluates how individuals improve how they feel (e.g., "I thought about my positive characteristics"; YAs of ω = .82, OAs ω = .86 in this study). In addition, intrinsic affect worsening is a 4-item scale that purposively measures people's attempt to make themselves feel bad (e.g., "I thought about my negative experiences"; YAs ω = .78, OAs ω = .75 in this study).

**Interpersonal Emotion Management** (IEM; Little et al., 2012). Same with EROS, IEM was included in the previous chapter. For this study, the reliabilities of the different scales are as follows: situation modification YAs ω = .78, OAs ω = .76, attentional deployment YAs ω = .61, OAs ω = .78, cognitive change YAs ω = .79, OAs ω = .80, and modulating the emotional response YAs ω = .86, OAs ω = .81.

**R-UCLA Loneliness Scale** (Russell et al., 1980). This 20-item questionnaire evaluates pleasure (e.g., "I feel in tune with people around me."; YAs ω = .87, OAs ω = .83 in this study)**,** and unhappiness (e.g., "My interests and ideals are not shared"; YAs ω = .87, OAs ω = .86 in this study) in social relationships.

**The International Positive and Negative Affect Schedule Short Form** (I-PANAS-SF; Thompson, 2007). This 10-item scale measures positive emotions (e.g., "Please indicate to what extent you generally feel… active; YA ω = .80, OA ω = .85 in this study), and negative emotions (e.g., "Please indicate to what extent you generally feel… upset; YAs ω = .87, OAs ω = .89 in this study)

**Subjective Happiness Scale** (SHS**;** Lyubomirsky & Lepper, 1999). This 4-item questionnaire assesses subjective happiness (e.g., "In general, I consider myself not a very happy person… a very happy person; YAs ω = .94, OAs ω = .91 in this study)

**Data Cleaning and Analysis**

Data was cleaned by excluding responses that had more than 50% missing answers, completing the questionnaire in an abrupt manner (i.e., five minutes or less), extreme responses (i.e., choosing only a single option throughout the survey), and an incorrect indication of age.

MPlus8 (Muthén & Muthén, 2017) was used to do a measurement invariance test to assess whether IAWS were understood by YAs and OAs the same way. As in Chapter 3, the first step was to conduct a configural invariance while constraining AE2 and REJ1 by holding

them constant at 1 and 0. Next, the test of metric invariance was conducted by constraining the factor loadings of the items across YAs and OAs. Finally, scalar (or strong) invariance was evaluated by requiring the factor loadings and intercept to be equal in both groups. IAWS were also correlated with other questionnaires to know the possible relationship of affect worsening strategies to emotionality and social relations of YAs and OAs.

## Results

### Measurement Invariance of IAWS Between YAs and OAs

The three nested models (i.e., configural, metric, and scalar invariance) were reached by IAWS as shown in Table 8. This meant that IAWS could be used to compare potential differences in the regulation strategies across the two different age groups in the study. Once assessment invariance was found, an independent sample t-test was conducted to understand whether possible age differences could be observed in YA and OA. Results showed that YAs and OAs differed in Engagement, with OA sample exhibiting greater use of Engagement strategies ($M = 3.944$, $SD = .767$) than the YA sample ($M = 3.821$, $SD = .763$; $t(432) = -1.673$, $p = .05$, $d = .765$). On the other hand, there was no significant difference in Rejection for the YA ($M = 2.074$, $SD = .771$) and OA samples ($M = 2.054$, $SD = .749$; $t(432) = .280$, $p = .39$, $d = .761$).

### Affect Worsening Strategies, Emotionality, and Social Relationships

The affect worsening strategies that YAs and OAs tend to apply and their link with their emotionality and social relationships were tested using correlations. Table 9 shows the descriptive statistics for the study variables and intercorrelations.

Engagement and Rejection were positively linked in the sample of OAs, but they were not significantly correlated in the sample of YAs. Concerning extrinsic affect worsening, this was positively linked with Rejection and not significantly linked with Engagement in both samples. Intrinsic affect worsening was positively linked with Rejection but only in the

sample of OAs. For affect improvement, it was only extrinsic that showed significant associations with Engagement in both samples. The rest of the correlations were not significant (see Table 9).

For the regulation strategies, YAs' Engagement was positively correlated with situation modification (SM), attention deployment (AD), and cognitive change (CC). Meanwhile, YAs' Engagement was negatively correlated with modulation of emotional response (MER). As for YAs' Rejection was negatively correlated with situation modification and attentional deployment, while it was positively correlated with MER. As for the OAs, Engagement had a positive correlation with attention deployment and cognitive change, while Rejection was only negatively correlated with MER.

For both YAs and OAs, Rejection was positively correlated with loneliness (Lone). Finally, neither for YAs nor for OAs, Engagement and Rejection were not correlated with Positive affect (PA), negative affect (NA), and happiness (Happ).

**Table 8**

*Measurement Invariance of IAWS Between YAs and OAs*

| affect worsening Scale | χ2 | *df* | *scf* | p | CFI | TLI | RMSEA (90% CI) | SRMR | MC | $\Delta\chi^2$ | Δdf | *p* | ΔCFI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Configural | 13.798 | 24 | .970 | .951 | 1.00 | 1.00 | .000 (.000, .000) | .037 | | | | | |
| 2. Metric | 19.799 | 29 | 1.023 | .899 | 1.00 | 1.00 | .000 (.000 - .033) | .058 | 2 vs. 1 | 6.001 | 5 | .206 | .000 |
| 3. Scalar | 40.733 | 34 | .984 | .984 | .966 | .960 | .043 (.000 - .085) | .076 | 3 vs. 2 | 20.934 | 5 | .001 | -.034 |

In addition to the χ2, the following fit indexes are reported: Comparative-fit-index (CFI); Tucker-Lewis-Index (TLI); Root-mean-square-error-of-approximation (RMSEA) with 90% confidence intervals (CI); Standardized-Root-Mean-Square-Residual (SRMR).
*df* = degrees of freedom; *scf* = scaling correction factor; MC = model comparison

**Table 9**

*Mean, SD, and Intercorrelation Among IAWS, Emotions, and Social Relations of YAs and OAs*

| Scales | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Eng | 3.821 | .763 | - | | | | | | | | | | | | | |
| | 3.944 | .767 | - | | | | | | | | | | | | | |
| 2. Rej | 2.075 | .772 | .095 | - | | | | | | | | | | | | |
| | 2.054 | .749 | **.399**$^{**}$ | - | | | | | | | | | | | | |
| 3. E-AW | 1.913 | .739 | -.005 | **.394**$^{**}$ | - | | | | | | | | | | | |
| | 1.440 | .592 | .034 | **.150**$^{*}$ | - | | | | | | | | | | | |
| 4. E-AI | 3.915 | .717 | **.285**$^{**}$ | -.063 | **.162**$^{*}$ | - | | | | | | | | | | |
| | 3.575 | .900 | **.153**$^{*}$ | -.056 | **.322**$^{**}$ | - | | | | | | | | | | |
| 5. I-AW | 2.824 | .900 | .124 | **.218**$^{**}$ | **.293**$^{**}$ | **.150**$^{*}$ | - | | | | | | | | | |
| | 2.350 | .869 | .075 | .090 | **.293**$^{**}$ | **.268**$^{**}$ | - | | | | | | | | | |
| 6. I-AI | 3.415 | .756 | .029 | -.027 | .064 | **.454**$^{**}$ | .089 | - | | | | | | | | |
| | 3.305 | .786 | .059 | -.081 | .149$^{*}$ | **.669**$^{**}$ | -.009 | - | | | | | | | | |

| Scales | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7. SM | 3.702 | .572 | **.197**$^{**}$ | **-.141**$^{*}$ | -.093 | **.475**$^{**}$ | .062 | **.275**$^{**}$ | - | | | | | | | |
| | 3.741 | .501 | .116 | -.014 | .072 | **.434**$^{**}$ | .068 | **.443**$^{**}$ | - | | | | | | | |
| 8. AD | 3.657 | .557 | **.142**$^{*}$ | **-.162**$^{*}$ | **-** | **.282**$^{**}$ | .056 | **.183**$^{**}$ | **.410**$^{**}$ | - | | | | | | |
| | | | | | **.174**$^{**}$ | | | | | | | | | | | |
| | 3.718 | .591 | **.281**$^{**}$ | .131 | .051 | **.322**$^{**}$ | .050 | **.348**$^{**}$ | **.524**$^{**}$ | - | | | | | | |
| 9. CC | 3.561 | .668 | **.189**$^{**}$ | -.024 | .059 | **.251**$^{**}$ | **.143**$^{*}$ | **.167**$^{*}$ | **.326**$^{**}$ | **.268**$^{**}$ | - | | | | | |
| | 3.600 | .656 | **.138**$^{*}$ | -.099 | -.065 | **.348**$^{**}$ | .049 | **.258**$^{**}$ | **.518**$^{**}$ | **.392**$^{**}$ | - | | | | | |
| 10. MER | 1.965 | .870 | **-.223**$^{**}$ | **.366**$^{**}$ | **.247**$^{**}$ | -.092 | .075 | **.181**$^{**}$ | **-** | **-.149**$^{*}$ | .025 | - | | | | |
| | | | | | | | | | **.233**$^{**}$ | | | | | | | |
| | 1.982 | .711 | -.083 | **.144**$^{*}$ | .106 | -.120 | -.072 | -.019 | -.078 | .006 | -.030 | - | | | | |
| 11. Lone | 2.442 | .632 | -.032 | **.131**$^{*}$ | **.131**$^{*}$ | **-** | **.281**$^{**}$ | **-** | **-** | -.082 | -.073 | .090 | - | | | |
| | | | | | | **.183**$^{**}$ | | **.396**$^{**}$ | **.220**$^{**}$ | | | | | | | |
| | 2.207 | .660 | .009 | **.181**$^{**}$ | **.156**$^{*}$ | **-** | **.377**$^{**}$ | **-** | **-** | **-.179**$^{*}$ | **-** | .069 | - | | | |
| | | | | | | **.259**$^{**}$ | | **.488**$^{**}$ | **.235**$^{**}$ | | **.280**$^{**}$ | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12. PA | 3.481 | .686 | .041 | .009 | .012 | **.256**$^{**}$ | **-.157**$^{*}$ | **.474**$^{**}$ | **.309**$^{**}$ | **.129**$^{*}$ | **.145**$^{*}$ | .062 | **-.360**$^{**}$ | - | | |
| | 3.67 | .706 | .071 | -.030 | -.080 | **.345**$^{**}$ | **-.139**$^{*}$ | **.509**$^{**}$ | **.386**$^{**}$ | **.269**$^{**}$ | **.264**$^{**}$ | .017 | **-.545**$^{**}$ | - | | |
| 13. NA | 2.267 | .846 | .032 | .104 | .092 | .019 | **.489**$^{**}$ | **-.190**$^{**}$ | **.011** | **.034** | **-.004** | **.139**$^{*}$ | **.519**$^{**}$ | **.272**$^{**}$ | - | |
| | 1.845 | .790 | -.014 | .098 | **.243**$^{**}$ | -.129 | **.435**$^{**}$ | **-.357**$^{**}$ | **-.268**$^{**}$ | **-.203**$^{**}$ | **-.275**$^{**}$ | **-.012** | **.492**$^{**}$ | **-.385**$^{**}$ | - | |
| 14. Happ | 4.485 | 1.590 | .038 | -.084 | -.084 | .023 | **-.287**$^{**}$ | **.245**$^{**}$ | .040 | .111 | .053 | -.099 | **-.341**$^{**}$ | **.211**$^{**}$ | **-.386**$^{**}$ | - |
| | 4.865 | 1.332 | .048 | -.121 | -.130 | **.256**$^{**}$ | **-.450**$^{**}$ | **.510**$^{**}$ | **.260**$^{**}$ | **.234**$^{**}$ | **.237**$^{**}$ | -.034 | **-.656**$^{**}$ | **.587**$^{**}$ | **-.568**$^{**}$ | - |

*Note*. *p<.05; **p<.01; Correlations reported in the first row correspond to YAs, the second row to OAs; Eng = Engagement; Rej = Rejection; E-affect worsening = Extrinsic Affect Worsening; E-AI = Extrinsic Affect Improvement; I-affect worsening = Intrinsic Affect Worsening; I-AI = Intrinsic Affect Improvement; SM = Situation Modification; AD = Attention Deployment; CC = Cognitive Change; MER = Modulation Emotion Response; Lone = Loneliness; PA = Positive Affect ; NA = Negative Affect; Happ = Happiness

## Discussion

This chapter focused on testing measurement invariance of IAWS using two different age groups, younger (18-40 years old) and older (60 and above) adults, while also taking into consideration how other factors such as emotionality and social relationships might be related to different regulation strategies in affect worsening.

The reliability of the Engagement scale yielded low values; however, it is important to recognise that it only has three items. On a positive note, the results showed that the IAWS reached measurement invariance, indicating that comparisons in the two samples of the study are possible. This result provides further evidence of validity of the IAWS, obtaining similar results to the ones in Chapter 3 (Chan, 2011).

### Interpersonal ER Strategies of Older Adults

In terms of the strategies applied by the YAs and OAs, results showed that OAs reported higher use of Engagement strategies compared to YAs when worsening other people's emotions. This supports the notion that compared to YAs, OAs use engagement (i.e., cognitive reappraisal) not only to lessen negative emotion but also to increase it (Opitz et al., 2012).This can be because OAs' have selected and optimised Engagement based on their accumulated knowledge and experience when dealing with emotions (Niven, 2022) regardless of whether the regulation is successful or not (Urry & Gross, 2010).

### Rejection Strategies and Loneliness

Results of the correlations of emotionality and social relationships in YAs and OAs exhibited that it is only social relationships that have a connection with interpersonal affect worsening strategies. In detail, loneliness was positively linked to Rejection in both samples. This can suggest that lack or absence of social relationships can lead people to be dismissive or show dissatisfaction towards others when engaging in interpersonal affect worsening (i.e., Rejection, Niven et al., 2009).

Furthermore, individuals who feel lonely or have had feelings of loneliness for a long time are more likely to be angry and aggressive (i.e., Rejection; Yilmaz et al., 2022) as not having a close relationship with others makes it easier for them to hurt others (Ireland & Power, 2004). Likewise, individuals who have feelings of loneliness can be relationally aggressive towards others because of their negative opinions of themselves and others brought about by being isolated (Yavuzer et al., 2018), or as a way of coping with their loneliness (Rocakh, 1990).

**Limitations and Future Direction**

To my knowledge, the current chapter is the first investigation conducted to scrutinise adults' interpersonal affect worsening strategies, particularly the comparison between YAs and OAs, and the possible connection with emotions and social relationships and strategy use. Although this chapter has shown promising results, it is not without limitations. First, scenario-based questionnaires may be strenuous to OAs which can affect their comprehension and response. Therefore, it is suggested that a short form of the scenarios or item-response scale be developed to ensure that the assessment for interpersonal affect worsening will not be draining to study participants. Second, cognitive control and other cognitive factors (i.e., executive function, fluid vs. crystallised intelligence) were not considered in this study. Although it was presumed that cognition can play a crucial role in ER of OAs, no other evaluative tools that would tap into the cognition of both OAs and YAs were included. The decline in OAs capability to process, integrate, and solve problems (i.e., fluid cognitive ability) (Baltes et al., 1999) can also impact how they process affective information (Labouvie-Vief et al., 2009). Therefore, when situations demand high cognitive demand, ER can be arduous for OAs as it requires fluid processing (Niven, 2022). Future studies are therefore encouraged to also investigate the influence of other cognition functions on interpersonal affect worsening, especially when different studies have noted that some

facets of cognition can remain stable or decrease with age. In addition, other factors such as physical constraints (e.g., illness, lack of mobility), and clinical conditions (e.g., depression in old age) can also have a link with how OAs engage in interpersonal affect worsening. Lastly, those who were in the stage of middle adulthood (i.e., 41 to 59) were not investigated in this study. Future research might consider adding this age group as they experience important life events which may impact their engagement in affect worsening (i.e., empty nest, career-related stagnation).

**Conclusion**

In conclusion, the comprehensive analysis of the IAWS, supported by additional psychometric tests, has reaffirmed its appropriate psychometric functioning. Notably, the findings have shed light on a fascinating aspect of ER: the differential use of Engagement strategies among age groups. The result that older adults exhibit a higher propensity for Engagement strategies compared to their younger counterparts underscores the essential need for continued research into the development of ER across the lifespan. This journey of exploration not only enriches the understanding of these vital processes but also prompts us to delve deeper into the myriad factors that contribute to these transformative changes. In the ever-evolving landscape of emotional regulation, these insights mark the beginning of a promising journey towards a more comprehensive understanding of the human emotional experience.

## Chapter 5: Summary, General Discussion, and Future Directions

Despite the strong theoretical basis for the motives and strategies associated with interpersonal ER (i.e., the process of changing others' emotions), there has been comparatively less attention to the concept in the literature than intrapersonal ER (i.e., self-regulation of emotions). As a consequence, there are fewer measures of interpersonal ER, with only two emphasising the general tendency to engage in affect worsening. Therefore, the main aim of the thesis was to add to the field by creating and validating the Interpersonal Affect Worsening Scale (IAWS), to evaluate the key motives and strategies identified as important to the process of interpersonal affect worsening. The scale subsequently highlighted cultural and age differences in how people engage in interpersonal affect worsening.

### Chapter 2: Development of the IAWS

Based on different theoretical frameworks that encompass motives (Niven, 2016; Tamir, 2016) and regulation strategies (Interpersonal Affect Classification, Niven et al., 2009) in affect worsening, as well as interviews and expert assessments, different scenarios and items were designed to assess the motives (conformity, instrumental, and altruism) and regulation strategies (affective engagement, putting one's own feelings first, and rejecting others' emotions). The key finding from the psychometric tests was there no interpretable solution for regulation motives, and it was only the regulation strategies that resulted in having an interpretable factor structure.

#### *Multiple Motives in Interpersonal Affect Worsening*

Although it was expected that the IAWS would be able to demonstrate that people may display a preference for a certain motive over others in the different scenarios, the main challenge identified in the findings was that the items did not cluster according to any *a priori* theoretical construct. Instead, the factors clustered based on the scenario, which is labelled in

the psychometric literature as multitrait-multimethod (MTMM) approach (e.g., different traits grouped together in the same method; Kenny & Kashy, 1992; Marsh & Hocevar, 1988; Schmitt & Stults, 1986). This made it difficult to evaluate the motives as the use of the scenarios, despite being well justified and a novel aspect of the study, may have caused the items to be interlinked with each other. In addition, previous studies conducted in investigating motives used experimental procedures (e.g., López-Pérez et al., 2017; Netzer et al., 2015), which allowed the behaviours to be investigated rather than self-report measures. Besides the actual methods used, the obtained findings also suggest that people may have more than a single motive when engaging in interpersonal affect worsening. As highlighted by Tamir (2016), it is possible that there will be situations in which different motives can co-exist. For example, when a parent worsens the feelings of their child after getting a bad grade at school, they may do it because they care about their child (i.e., altruism) but also because they want their child to perform better at school (i.e., instrumental).

***Regulation Strategies***

Contrary to the proposed three categories of affect worsening strategy, the results of this chapter showed that only Engagement (i.e., affective engagement) and Rejection (i.e., putting own feelings first) are employed when engaging in interpersonal affect worsening. Thereby, excluding rejecting others' emotions as a mean to achieve affect worsening. Suggesting that asking others to think about the situation, or by talking angrily to them are how people induce negative emotions. The exclusion of rejecting others' emotions also reveals that individuals are less likely to use approaches that would explicitly show impoliteness or rudeness.

Although the possibility that impoliteness can still be used to cause unpleasant emotions in others in real-life settings, (e.g., Culpeper & Hardaker, 2017; Smith et al., 2010), the Interpersonal Affect Classification is the only model available that explains the specific

strategies in interpersonal affect worsening. In the Interpersonal Affect Classification, the definition of the strategies includes motives: Engagement appears to connote teaching others about the consequences of their unpleasant behaviour therefore highlighting the altruistic motive, while Rejection is about hurting others and is counter-hedonic in nature.

It is also feasible that the means in interpersonal affect worsening go beyond what is suggested under the Interpersonal Affect Classification. In other words, the strategies that are highlighted by the Process Model of Emotion Regulation (PMER; Gross, 1999, 2002, 2015), aside from cognitive reappraisal, can also be applicable in interpersonal affect worsening. For instance, response focused ER (i.e., suppression) can also make others feel or upregulate negative emotions as it discourages allowing others to express or process their emotions. The use of situation modification can induce unpleasurable emotions in others when an aspect of the situation or environment is changed or removed. Aside from these, since the Process Model has received a wealth of empirical support in the intrapersonal ER literature, its applicability to interpersonal affect worsening is not unreasonable since it was suggested in the earlier chapters that strategies that can be used in intrapersonal ER can be applied in interpersonal ER (Gurera et al., 2022).

### *Limitations and Future Directions*

**Item-response Scale.** Scenarios-based scales (i.e., vignettes) are recommended to be used when dealing with sensitive and ethical topics as they allow individuals to depersonalise and distance themselves from possible personal circumstances, which can hinder them from being able to fully disclose their actual view about certain situations (Khanolainen & Semenova, 2020). Given that inflicting negative emotions on others can pose ethical issues, or others may consider this as sensitive, the use of scenarios for the IAWS aided in providing an initial step in knowing more about the motives and strategies of interpersonal affect

worsening. However, scenarios may not always work best for some individuals as they are required to understand someone else's perspective rather than their own.

The consequence of this can lead some people to view the characters as separate from themselves, by not being able to fully take in the characters' situations (Kinicki et al., 1995). This may have limited the capacity to fully capture or emulate real-life interpersonal affect worsening motives and strategies. Hence, future measures may adopt a classical test theory (DeVellis, 2006) or item-response theory (Drasgow & Hulin, 1990) approach to see whether different methods may yield similar results as every item can be readily answered without having to imagine oneself as one of the characters in the scenarios presented.

## Chapter 3: CFA, Validation and Testing of Measurement Invariance

Following up on the initial factor structure found (Engagement and Rejection), a Confirmatory Factor Analysis (CFA) was conducted to further validate it. Based on the results, the factors of Engagement and Rejection showed acceptable goodness-of-fit indices, indicating that the items demonstrated appropriate psychometric functioning, were theoretically relevant, and in line with the interpersonal affect worsening strategies suggested in the Interpersonal Affect Classification model (i.e., Niven et al., 2009). Additional psychometric tests revealed that the IAWS had adequate construct and criterion validity as well as measurement invariance in the two samples evaluated in the Philippines (PH) and the UK. The latter was important as previous research highlighted important cultural differences in intrapersonal emotion regulation (Butler et al., 2007; Liddell & Williams, 2019; Matsumoto et al., 2008; Qu & Telzer, 2017). Therefore, having a measure that could be interpreted similarly in the two samples of the study was key to being able to compare them on their reported use of different regulation strategies.

### *Motives within Strategies*

Findings from the criterion validity showed that Engagement is related to empathy

and prosociality, while Rejection is associated with Machiavellian personality. The results indicated that the two interpersonal affect worsening strategies can either be adaptive or maladaptive, respectively.

Although the emotion goal of interpersonal affect worsening is to upregulate negative emotions (Niven et al., 2009), it is possible that people use Engagement strategies to inflict negative unpleasant emotions to put right unacceptable behaviours. This assumes that the use of Engagement strategies by openly asking others to think about the possible consequences of their undesirable behaviours can either be because it will benefit them (i.e., altruistic; López-Pérez et al., 2017) or because they need to perform better to finish goals or tasks (i.e., instrumental; Netzer et al., 2015).

***Culture and Strategies***

The assessment invariance sets forth the applicability of IAWS in different groups of people from varying cultural backgrounds as they appear to understand the concepts of Engagement and Rejection, and the scenarios in the same way. Additionally, the PH and the UK samples did not differ in their use of Rejection strategies. On the other hand, the PH participants reported a higher use of Engagement strategies. This is interesting because, in line with the proposed proposition that the intrapersonal ER strategies can extend to interpersonal ER, it is then expected that individualist cultures such as the UK would exhibit higher use of reappraisal strategies (i.e., cognitive change). One possible explanation for this is that individualist cultures may not be keen to worsen others' affect despite being able to use reappraisal strategies to inflict negative emotions on others.

Meanwhile, PH engagement in interpersonal affect worsening can be due to the concept of *kapwa*, where one has a sense of shared identity with others (i.e., having the notion that the self is not different from others; Enriquez, 1994). Furthermore, *kapwa* is more than the notion of being other-oriented, as it entails having the self and others as intertwined

together by being at one with others (Pe-Pua & Protacio-Marcelino, 2000). Hence, individuals from PH are more likely to be accepting of others, especially those with whom they share a close relationship, and when they become involved in certain situations particularly when the end goal would be to be attuned to the common good of the larger collective (Yacat, 2013). In addition, the notion of *pakikipagkapwa* (i.e., fellowship; commitment to others according to the ideals of *kapwa,* Canete & Del Castillo, 2022) necessitates having human concern for others (San Juan, 2006), showing that people from the PH put emphasis on caring and looking out for the welfare of others which may explain why they are more motivated to worsen the feelings of others in order to explain to them what they did wrong. This can also apply to the connection between Rejection and empathy in the PH sample, whereby although the purpose of affect worsening is to inflict negative emotions, at the same time PH individuals take into account others' perspectives and are compassionate towards them.

### *Limitations and Future Directions*

**Cultural Dimensions.** Although IAWS was able to provide a glimpse into the differences in strategy use by people from distinct backgrounds, it is significant to note that countries cannot be taken as a proxy for cultures and cultural dimensions (Taras et al., 2016). Therefore, future work is encouraged to include measures that would evaluate the cultural dimensions of individualism-collectivism, and power distance. As previously mentioned, individualism and collectivism are some of the defining characteristics of different cultures (Triandis, 2001), including egalitarianism-hierarchy (i.e., power distance; Basabe & Ros, 2005). These dimensions do not just influence interpersonal interactions with others, but also macrosocial correlates (i.e., Human Development Index, Gross National Product, Gini Index, Politics) that can also have an effect on the well-being of the individuals (Basabe & Ros, 2005). For instance, people from individualistic cultures with lower power distance are more

likely to have the resources (e.g., better economic development, less inequality) to be able to continuously promote autonomy, while in collectivist cultures with high power distance often results in power disparities and higher social inequality (Reyes et al., in press). These factors can contribute to social interaction, which can also influence interpersonal affect worsening.

Furthermore, there is evidence of the social sharing of emotions in individualistic and collectivist cultures. However, in collectivist contexts, other people are more likely to be engaged in a process of mutual concern and act accordingly (Mesquita, 2001). Another salient difference is that emotions in people from collectivist backgrounds act as sources of information that can influence beliefs about reality, whereas, in individualistic cultures, emotions are not always relevant to belief change (Mesquita, 2001). In terms of power distance, it would be significant to explore how egalitarian cultures engage in affect worsening as well as the impact of associated strategies since individuals view themselves as equals, but for those with high power distance where hierarchy within social relationships is emphasised, strategy selection may be influenced whether the target has a higher or lower power than the agent. In addition, a more sophisticated country-level comparison/analysis (e.g., multilevel confirmatory factor analysis, Cheung et al., 2006, Van de Vijver & Leung, 2000; hierarchical linear modelling, Osborne, 2000) is suggested in order to further explore the possibility of how varying cultures engage in interpersonal affect worsening at the within- and between-levels.

**Chapter 4: Age Differences in Strategies**

Finally, in Chapter 4, the IAWS achieved measurement invariance in two different age groups showed its applicability across diverse contexts (i.e., culture, age). Based on the results of Chapter 4, older adults (i.e., 60 and above) differed in the use of Engagement strategies from younger adults (i.e., 18-40), but there were no differences in the use of Rejection strategies in both groups. This shows congruity with the findings in the previous

chapter, as both the UK and PH samples did not present significant differences in terms of the application of the Rejection strategy. All the samples (i.e., the UK, PH, OAs, and YAs) reported low use of Rejection (i.e., showing annoyance or talking angrily to the target), which can be due to social desirability as they may not want to be viewed as getting angry at others. Lastly, when the strategies were correlated with distinct psychological factors (i.e., emotional functioning, social relations), it was only loneliness and Rejection that were related. Indicating that people who have feelings of loneliness tend to use Rejection strategies to a greater extent.

### *Generativity in Old Age*

Previous literature has highlighted that older people favour experiencing positive emotions, being selective with the situations that they engage in, avoiding having disagreements with others, and are less likely to express anger (Carstensen et al., 2003; Phillips et al., 2006). However, the results of this study revealed that older people can still engage in interpersonal affect worsening even though they avoid engaging in negative emotions. With the use of Engagement over Rejection strategies, it is possible that older people are able to practice generativity, as they view affect worsening as a way to guide, ascertain, and leave a lasting legacy for future generations to reach their full potential (Villar, 2012). Further, as the suggested aim of Engagement is to help others to make the right unacceptable behaviours, older people may engage in affect worsening to create, maintain, and offer acts that can help benefit others (McAdams & Logan, 2004).

### *Changes in ER Across Adulthood*

Evidence has shown that there are changes in the ER process across different developmental phases (Kopp, 1989; Saarni, 2007; Thompson, 2014). This can be due to role

changes, challenges, and expectations that each adult life stage encounters (Gross, 2015). For example, young adults (e.g., emerging adults) who are still in the exploration stage may not be able to properly apply the right strategies when dealing with emotions because they are still going through the phase of knowledge acquisition coupled with emotional insecurity brought about changing role status (Arnett, 2001; McAdams, 2013; Roisman, et al., 2004). However, older adults whose roles are less likely to have a drastic change, and whose social expectations may not be as high compared to their younger counterparts (Kaufman & Elder, 2002), depend more on acquired knowledge based on their experiences (Niven, 2022). This, in turn, allows older adults to use strategies that they believe are appropriate for the situation. This includes strategies that older adults view as the strategy that worked in the past and are more likely to work in situations that need emotion regulation (Charles, 2010; Urry & Gross, 2010), including interpersonal affect worsening.

### *Limitations and Future Directions*

**Open Science Framework.** Open Science Framework is a tool that promotes open, centralised, and collaborative research by putting salience on transparency, reproducibility, and data management (Foster & Deardoff, 2017). To achieve this, OSF encourages research to be pre-registered, a practice where a plan of the research is being documented to increase the study's discoverability (Franco et al., 2014), eliminate false reporting of results (Fortsmeier et al., 2017), and differentiate exploratory and hypothesis-testing (Nosek et al., 2018). The major limitation of the three studies was the lack of pre-registration in the Open Science Framework. Doing so would allow for a follow-through work that would substantiate the results, while also increasing the initial outcomes. However, although the studies had not been pre-registered, the IAWS (i.e., developed AW scale) (https://osf.io/xp728) and the

collected data for the thesis (Study 1: https://osf.io/bn8xj; Study 2: https://osf.io/27ksh; Study 3: https://osf.io/nrekd) are available to download.

**Real-life Application of Affect Worsening Strategies.** The three studies of this thesis showed the means that people apply when they engage in affect worsening. However, there is still a need to further investigate if the same strategies are also applied in day-to-day interactions of individuals. Therefore, it is suggested that future work focus on conducting ecologically momentary assessment (i.e., EMA) where the suggested strategies and means in this thesis are correlated with the actual real-life strategies that people use when inducing negative emotions on others. The study would involve asking participants completing the Interpersonal Affect Worsening Scale as baseline and then asking them to report daily three times a day for at least 10 days whether they worsened someone's affect and what strategies they used to do so. The application of Dynamic Structural Equation Modelling (Hamaker et al., 2018) would allow testing whether people's tendency to use certain affect worsening strategies (as reported in the Interpersonal Affect Worsening Scale) predicts higher use of the same strategies in daily life. This research could aid in showing the potential predictive validity of the Interpersonal Affect Worsening Scale, as well as getting more accurate information on the frequency of use of affect worsening strategies and whether they might differ depending on the target (i.e., romantic partner, child, friend, work colleague, etc.).

## Questions to Guide Further Research

The current thesis has contributed additional information to the study of interpersonal affect worsening, however, there are still questions that are yet to be answered.

***Question 1: Does motive lead to the use of a specific strategy?*** Following Tamir et al.'s (2020) proposition that higher-order goals (i.e., motives) can influence the emotion

goals, which activate the implementation of strategy (Tamir et al., 2019), it can also be inferred that affect worsening motives can affect the affect worsening strategies that people will use. For example, if agents are motivated to worsen targets' affect for altruistic reasons, specific strategies will be chosen in order to ensure that targets will benefit from modifying targets' emotions. Specifically, cognitive change over rejection strategies may be chosen as the former allows the target to ponder upon what have caused the agents to worsen their feelings, while rejection strategies may not be an effective strategy for altruistic motives as targets can be left just feeling bad. However, this thesis was not able to answer this question as the motivations clustered per scenario, and motives were not properly investigated. It is therefore suggested that in future work, the relationship between motives and strategies: specifically, whether motives drive the choice of strategies in interpersonal affect worsening should be looked into.

***Question 2: Are two affect worsening strategies enough?*** The Interpersonal Affect Classification (Niven et al., 2009) has served as a foundation for investigating the strategies that people apply in interpersonal affect worsening. It sheds light on how moving towards the situation (i.e., engagement) or not directly attending to the problem (i.e., rejection) can worsen others' affect. Nevertheless, a comprehensive classification of interpersonal affect worsening strategies is still needed as there can be other possible means by which interpersonal affect worsening can be achieved. As previously mentioned in this chapter, the strategies under Gross' Process Model (1999, 2002, 2015) can be integrated into the current classification of interpersonal affect worsening. This will give further insight into how culture can play a role in strategy use. For example, there are cultures that prefer suppression as a way to regulate others' emotions, or whether direct and indirect forms of communication in

other cultures change the use of affect worsening strategies. In addition, due to globalisation, people move from one place to another, affecting how they meet and choose to interact with others, and influence the capacity with whom they identify (i.e., relational mobility). This is an important aspect to consider as different cultural values and customs can be assimilated in the personal values of individuals, which can therefore also influence the strategies that they use. Considering all these factors, future endeavours should investigate how to further integrate the interpersonal affect worsening strategies classification within this framework.

***Question 3: Is interpersonal affect worsening successful?*** Reeck et al.'s (2016) suggestion that interpersonal emotion regulation will be successful when the targets have judged that the modification of their emotions are authentically done by the agents. However, apart from this, the success of interpersonal emotion regulation, particularly interpersonal affect worsening still needs further studies. Agents' appropriate use of interpersonal affect worsening does not necessarily guarantee that it will indeed produce negative emotions on the targets. Therefore, it is proposed that research on interpersonal affect worsening should focus on the targets, to know more about their perception of the possible motives and strategy use of agents, and how they felt during interpersonal affect worsening. Considering the targets' view of the interpersonal process will provide information as to whether the interpersonal affect worsening has really been successful or not.

**Implications**

There are several theoretical and practical implications that can be drawn from the findings of this thesis.

### *Theoretical Contribution*

Intrapersonal emotion regulation has received widespread attention in the field of emotion research (Aldao, 2013; Campos et al., 1989; Gross, 1999; Thompson, 1994), but there are still many areas to explore in interpersonal emotion regulation, especially interpersonal affect worsening as comparatively less is known about it. Therefore, this thesis contributes to the existing knowledge about interpersonal affect worsening in important ways.

First, the research diverges from the usual studies conducted on interpersonal emotion regulation which mainly focuses on affect improvement and moves towards progressing research on affect worsening. Using the Interpersonal Affect Classification (Niven et al., 2009) as the basis of this research, the IAWS is the first measure that directly taps into the specific means that people employ when engaging in affect worsening. Hence, this thesis lays the empirical groundwork for the strategies individuals use when inducing negative emotions on others. Although the initial proposed secondary means were not supported (i.e., negative cognitive engagement, rejecting others' feelings, putting own feelings), the current findings still give credence to the two primary affect worsening means of the Interpersonal Affect Classification. This thesis can also provide evidence for researchers to rethink the Interpersonal Affect Classification. One probable revision is the exclusion of behavioural engagement as it seems to have an overlap with other strategies. For example, prototypical tactics of affect worsening under behavioural engagement are "letting the target know you think he or she is not pulling his or her weight," or "complaining that the target has forgotten to do something" (Niven et al., 2009, p.204). Although the main aim of these means is to change how targets behave for them to feel negative emotions, they can also affect how the target thinks about themselves; therefore, making it hard to disentangle behavioural from

cognitive engagement. In fact, this difficulty in disentangling these strategies is also apparent when asking Large Language Models to accurately identify and classify different interpersonal emotion regulation based on participants' qualitative responses (Lopez-Perez et al., 2024). The difficulty in separating behavioural and cognitive engagement is in line with the result obtained in another questionnaire where only the primary means of affect improvement (instead of the specific regulation strategies) were supported (López-Pérez et al., 2017.

Second, another theoretical contribution of this thesis is that it outlines the possibility that strategies are dovetailed with motives. Previous studies have shown that modifying others' emotions can also have a harmful effect on agents (i.e., the one who alters others' emotions; Niven et al., 2012) Therefore, the willingness to cause negative emotions in others occurs because it will yield a result that can be useful to others. For instance, while Engagement's main aim is to inflict or upregulate negative emotions, it also leads others to contemplate their actions and that can result in a change in their behaviour. This exhibits altruistic motives, as causing negative emotions in others will be beneficial for them without the agent getting any favour in return (López-Pérez et al., 2017), or in certain situations can also be instrumental as changing how others think to inflict negative emotions can help achieve goals (Netzer et al., 2015).

Thirdly, this thesis is among the first to denote age differences in affect worsening. The findings show that older people's engagement in interpersonal affect worsening can be because of empathic goals. That is, they are willing to engage in situations that can elicit negative emotions for others to achieve their desires or wants, or what will be beneficial to others (Zaki, 2020). This also supports the notion about the suggested proposition that the

definition of the strategies of Interpersonal Affect Classification are encompassed with motives in themselves: older adults' use of Engagement as it shows that inflicting negative emotions on others goes beyond just making others upset. In addition, older adults' ability to engage in affect worsening presents that exerting effort to be involved in negative emotions can be by putting importance on deriving meaningful experiences (Carstensen et al., 2003), and their ability to use their accumulated knowledge and experiences to use the appropriate strategies in situations that require affect worsening.

### *Practical Implications*

Aside from the theoretical implications that the development of IAWS has contributed, it also offers practical implications.

**Politics.** Emotions can guide people's political evaluations that forge citizens' behaviour and reaction to political events (Akdemir, 2021; Marcus, 2000). Hence, it is plausible that the application of affect worsening strategies to influence political outcomes can be used by politicians or political groups. Different tactics, such as that can cause varying emotions on individuals can manipulate how people decide to engage in political activities and decision-making (Steenbergen & Ellis, 2006; Susser et al., 2019). For instance, Cambridge Analytica used a psychographic database to micro-target individuals by influencing their internet algorithm, so that users were more likely to see campaigns and programmes that fit their preferences. What Cambridge Analytica showed is that affect worsening, specifically by triggering fear, anger, and anxiety (Berghel, 2018; Risso, 2018), can be used to alter preferences of voters. Another example can be found in the Philippines politics where a networked political brokerage (i.e., use of internet platform to monetize and advance political agenda, Soriano & Gaw, 2022a) is thriving. In detail, there is a rise in the

number of “influencers” who are changing the landscape of political values and standards by inducing anger in their audience encouraging and normalising incivility, hostility, harassment, and strife against opposition through disinformation, revisionism, and manipulation (Soriano & Gaw, 2022b). Anger can also further increase social polarisation, where people from varying groups tend to not interact with each other, causing further division paralysing social relationships and democracy (Webster et al., 2022). However, unpleasant emotions (e.g., anxiety, fear, and anger) can also be used to produce positive outcomes. For example, it was found that anxiety and fear can cause individuals to practice critical judgment and are more likely to collect information, like actively knowing about the latest news, about the political leaders or groups they are supporting to lessen the worry they are feeling (Brader, 2006; Erișen, 2018; González-Bailón et al., 2012). Also, anger, when used to promote social good, can lead individuals to join social movements that would help change the current political situation (Erișen, 2018)

Findings from this thesis can shed light on how interpersonal affect worsening strategies can be used to alter how individuals think about certain situations or individuals, which can result in changes in perspectives brought about by modifying emotions (Susser et al., 2019). Hence, creating policies that monitor how interpersonal affect worsening is used to negatively influence people’s political decisions can aid in regulating and moderating platform content. Moreover, the results can encourage independent organisations promoting good governance to counter the networked political brokerage by also using online platforms to disseminate information on how to counter-check malicious content that often encourages individuals to be aggressive or hateful towards others. As for the educational institutions that have autonomous functions (i.e., institutions that can create programs or curricula), they can

incorporate lessons or activities that can further strengthen voters' education by providing awareness about interpersonal affect worsening strategies that can influence their political decision-making. It is also possible that politicians or leaders can apply interpersonal affect worsening in events that are useful to ensure compliance of citizens (e.g., obedience to the public health restrictions during a pandemic, Naughton et al., 2023). On a positive note, the use of engagement strategies (e.g., asking people to contemplate of the effects of being disengage with social matters to others; telling others to reflect whether there social cause are bringing more harm than good) might also lead to positive changes as it aims to inflict negative emotions in others to lead them to think about the negative consequences of their actions. Therefore, social groups or other individuals can apply engagement strategies to increase political engagement, and to be more analytical regarding the political events that they are witnessing.

**Market Research**. Emotions also influence consumers' behaviour (Achar et al., 2016) and consumption. Therefore, interpersonal emotion regulation can aid in the development of different schemes that can augment the utilisation of products by changing people's emotions. Although it seems counterintuitive to use affect worsening in knowing about the viability of products and services, market researchers can conduct studies on how interpersonal affect worsening strategies can be justified to make their products and services viable. For example, knowing more about the connection of interpersonal affect worsening strategies in instilling fear and anxiety in stimulating risk and vulnerability (Bartikowski et al., 2019), and anticipation of pain and distress (Williams, 2012) can increase sales of products (von Gilsa et al., 2013).

**Sports.** Emotions also have a salient role in sports' experiences that can affect performance (Lazarus, 2000). Since sports are usually competitive in nature, emotions can be involved because people are striving to reach a goal (De Saá Guerra et al., 2012). Thus, the results of this thesis can help sports psychologists and researchers of the field to provide ideas to team members (e.g., athletes, coaches, and managers) on how interpersonal affect worsening can be applied to their other teammates and their opponents. Within a team, anger was found to help boost performance when physical tasks are required (Woodman et al., 2009) and it can also increase attention, information processing, decision making and performance control (Wittman et al., 2008); therefore, it is possible that teammates can instill anger to the other teams to aid them to perform well. In addition, team owners may wish to include interpersonal affect workshops, as part of their training, to help their team members to use it for their own performance, and to learn how to counter possible interpersonal affect worsening from opposing teams.

**Organisational Context.** Workplaces are composed of people who interact with each other. These interactions among co-workers, leaders, or customers, can make people feel different emotions (Fisher, 2019). In addition, technological advancement, change in organisational structure, innovation, competition, and acceleration of performance or production can influence how organisational interactions occur, which in turn can affect people's emotions within the workplace (Küpers & Weibler, 2008). Sometimes even stress outside work can spill over (i.e., experiences in one domain can affect the experiences in another domain; Pleck, 1995) to the actual work environment causing unpleasant experiences of individuals within the organisation (Grzywacz et al., 2002). There are also instances where abusive supervision (i.e., subordinates perceived engagement of the supervisors in sustained

display of verbal and non-verbal behaviours, Tepper, 2000) and workplace incivility (i.e., display of lack of regard towards others, Andersson & Pearson, 1999) can occur, which interpersonal affect worsening can play a crucial role. Hence, the findings of this study can help organisational behaviourists to further disentangle how interpersonal affect worsening is being or can be utilised within the workplace, while also highlighting its distinctiveness from other forms of similar constructs such as bullying or emotional manipulation.

**Family and Romantic Relationships.** As this thesis has presented, interpersonal affect worsening does not always mean to cause harm to others, and people sometimes engage in affect worsening to ensure that there will be beneficial outcomes (i.e., altruistic, López-Pérez et al., 2017). Researchers can look into the role emotions play within families and romantic relationships to further investigate the altruistic side of interpersonal affect worsening. Moreso, this work can help counsellors (e.g., family, school), or even parents, to know that interpersonal affect worsening does not always need to be bad, but strategies such as Engagement can be integrated with parenting practices, especially in teaching their children about the negative consequences of their actions. For couples, the results of this work can give information about the usefulness of negative emotions, for example guilt and fear, particularly when it will ensure that unpleasant behaviours can be changed.

**Lifespan Development.** Like in any other field of emotion regulation, interpersonal affect worsening can also be influenced by the changes in each developmental stage, including the gains and losses that individuals experience. Thus, the results of this study can serve as a fundamental source of information about the choice of strategies that different age groups apply, especially when delving deeper into the possible changes in strategy use across the lifespan. In addition, socio-emotional development scholars can also look into the

plausibility of strategies that can be socialised within the environment that individuals are embedded in (i.e., family, peers, school/work, neighbourhood). Scrutinising interpersonal affect worsening strategies will give additional insights into psychological abuse and psychological manipulation that helps understand the effect on the development and maintenance of social relationships.

**Conclusion**

Interacting with people often involves emotions. In some instances, emotions are used to make others feel good about themselves, but there are also situations where negative emotions are inflicted causing others to feel upset or distressed. Although unpleasant emotions may not always be favoured by individuals, negative feelings can be imposed in situations that require it. Evidence from this thesis demonstrates that when engaging in interpersonal affect worsening, people use a strategy that will cause others to feel bad to correct actions or behaviours that are not pleasurable, or people will just show their anger towards others. The studies also give important and novel insights into interpersonal affect worsening. In particular, they provide information on how context can influence strategy use. This thesis suggests that a social context that puts emphasis on order and harmony is more likely to engage in interpersonal affect worsening given that the end goal is to ensure that others' behaviours will not deviate from the norm. Furthermore, the findings also presented that older adults differ from younger adults in terms of interpersonal affect worsening by approaching the emotion-eliciting event rather than avoiding or dismissing it. In summary, this thesis represents a significant step towards unravelling the intricacies of affect worsening. By delving into both theoretical frameworks and empirical research, it aims to shed light on the strategies individuals employ in this domain, ultimately contributing to the

enrichment of our understanding of this underexplored facet of human interaction. As we navigate the ever-evolving landscape of interpersonal dynamics, this research offers a valuable compass, guiding us towards a more comprehensive understanding of affect worsening and its implications.

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# APPENDIX

## Interpersonal Affect Worsening Scale

**INSTRUCTION:**

On a daily basis, we encounter other people's emotions, and there are instances that we do something about how other people feel.

You will be presented with different scenarios about others' emotions. Read each scenario carefully, and try to imagine that you are the main character. After reading each of them, please answer the questions that follow as honestly as possible.

**Scenario 1**

You are babysitting your younger niece, Ruth (7 years old), and nephew, Peter (5 years old), who are playing a video game. Both of them are unfamiliar with the details of the game as it is new.The game is too easy for Ruth, while Peter is struggling to finish each level. You hear Peter asking Ruth what he needs to do, but Ruth doesn't want to share any information. Ruth is also teasing Peter, and Peter is becoming more upset.

How likely is it that you will make Ruth upset?

| Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

How likely may each of the following reasons apply to you when making Ruth upset?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| You want Peter to win the game. | ○ | ○ | ○ | ○ | ○ |
| You desire what is best for Peter. | ○ | ○ | ○ | ○ | ○ |
| You are expected to ensure that your niece and nephew treat each other well. | ○ | ○ | ○ | ○ | ○ |

How probable is that you will use each of the following strategies when upsetting Ruth?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| Telling Ruth to think about how she is hurting Peter's feelings. | ○ | ○ | ○ | ○ | ○ |
| Telling Ruth that she is not really that good at playing the game. | ○ | ○ | ○ | ○ | ○ |
| Showing your annoyance towards Ruth. | ○ | ○ | ○ | ○ | ○ |

**Scenario 2**

Your best friend, Michael, is joining an art competition. The contest is approaching, yet he is not preparing for it. You know that Michael is really good at his craft, but he needs to practice various new techniques as part of the competition. It is important for Michael to win the contest as the prize includes a large amount of money, which he could use to start his own business to help secure his future. You have asked Michael why he is procrastinating, but he does not want to tell you.

How likely would you be to stress out Michael a little bit?

| Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

How likely may each of the following reasons apply to you when making Michael feel stressed?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| You want him to perform well in the competition. | ○ | ○ | ○ | ○ | ○ |
| You care about Michael's future. | ○ | ○ | ○ | ○ | ○ |
| You are assumed to help your best friend. | ○ | ○ | ○ | ○ | ○ |

How probable is that you will use each of the following strategies when making Michael feel stressed?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| Saying to Michael that his procrastination will not lead him to win the competition. | ○ | ○ | ○ | ○ | ○ |
| Playing down Michael's achievements in the past. | ○ | ○ | ○ | ○ | ○ |
| Sounding annoyed when talking with Michael. | ○ | ○ | ○ | ○ | ○ |

**Scenario 3**

You are helping your younger cousin, David, with his school project. You are teaching him what he should do as he has no idea how to work on the task that he is assigned to finish. You patiently explained to David the step-by-step process that he should take in order to come up with the right results for him to get a good mark. David is quiet the whole time, so you thought he was listening. However, when you look at him, you notice that he is playing with his phone.

How likely would you be to annoy David for ignoring you?

| Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

How likely may each of the following reasons apply to you when annoying David?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| You need David to do well in the project. | ○ | ○ | ○ | ○ | ○ |
| You are attending to what is beneficial for David. | ○ | ○ | ○ | ○ | ○ |
| You ought to look after David as he is your younger relative. | ○ | ○ | ○ | ○ | ○ |

How probable is that you will use each of the following strategies when making David feel annoyed?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| Commenting to David to think about his rudeness for not listening. | ○ | ○ | ○ | ○ | ○ |
| Giving David the silent treatment. | ○ | ○ | ○ | ○ | ○ |
| Sounding intentionally angry while talking to David. | ○ | ○ | ○ | ○ | ○ |

**Scenario 4**

You and your friend, Rachel, decide to grab a light snack before competing in a choir contest. You notice that Rachel orders more than you are allowed to eat before singing. She says that she is going through something, and this is the reason behind her stress-eating. You have no clue about what she is going through, but you know that her actions could have negative consequences for both Rachel and the choir. How likely is it that you would make Rachel feel bad about eating too much?

How likely is it that you would make Rachel feel bad about eating too much before the competition?

| Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

How likely may each of the following reasons apply to you when making Rachel feel bad?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| You do not want her to ruin the choir performance. | ○ | ○ | ○ | ○ | ○ |
| You are keeping Rachel from making herself unhealthy. | ○ | ○ | ○ | ○ | ○ |
| You are assumed to look out for your friends. | ○ | ○ | ○ | ○ | ○ |

How probable is it that you will use each of the following strategies when making Rachel feel bad?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| Telling Rachel that if she doesn't sing well, the whole choir will perform badly. | ○ | ○ | ○ | ○ | ○ |
| Criticising Rachel for eating too much before the competition. | ○ | ○ | ○ | ○ | ○ |
| Replying in an angry tone every time Rachel talks to you. | ○ | ○ | ○ | ○ | ○ |

**Scenario 5**

Your workplace has implemented a rule stating that employees are not allowed to use their phones during work hours as it is impacting people's performance. You noticed that your close friend Isaiah is not focusing on his task, instead, he is using his phone when he should be working. You are aware that Isaiah has already been reprimanded by the management for not performing well at work, and that he has been already caught multiple times disobeying the rule. Isaiah has also told you that he has been given a last chance, but if he is caught again for not following rules, or his performance is still falling behind, the company will have no choice but to let him go. You know that Isaiah can't lose his job in his current situation, as his family needs the money in order to pay for the day-to-day expenses.

How likely is it that you will make Isaiah upset for not focusing on his task?

| Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

How likely may each of the following reasons apply to you when making Isaiah upset?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| You want Isaiah to finish his task. | ○ | ○ | ○ | ○ | ○ |
| You are considering what is good for Isaiah. | ○ | ○ | ○ | ○ | ○ |
| You are expected to help Isaiah. | ○ | ○ | ○ | ○ | ○ |

How probable is it that you will use each of the following strategies in making Isaiah upset?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| Say to Isaiah to think about what will happen to his family because of his behavior. | ○ | ○ | ○ | ○ | ○ |
| Giving a nasty comment about Isaiah's actions. | ○ | ○ | ○ | ○ | ○ |
| Getting mad at Isaiah for not listening to you. | ○ | ○ | ○ | ○ | ○ |

**Scenario 6**

You and your friend are taking an important exam. Your close friend, Patricia, who is sitting beside you starts to laugh. She is trying her best to control her laughter, but the other examinees around you start to notice. You know that at any moment, the examiner could also notice, which would lead her to be disqualified from taking the test. You don't want that to happen because you know how important it is for her to pass the exam. You whisper to Patricia what led her to laugh, but she just shrugs you off.

How likely is it that you would make Patricia feel bad for laughing?

| Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

How likely may each of the following reasons apply to you when making Patricia feel bad?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| You hope that Patricia will focus on finishing the test. | ○ | ○ | ○ | ○ | ○ |
| You are aware that laughing will not be helpful to Patricia. | ○ | ○ | ○ | ○ | ○ |
| You and others expect Patricia to be serious during the test. | ○ | ○ | ○ | ○ | ○ |

How probable is it that you will use the following strategies in making Patricia feel bad?

| | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely |
|---|---|---|---|---|---|
| Asking Patricia to think about her annoying attitude. | ○ | ○ | ○ | ○ | ○ |
| Letting Patricia know that you don't care if she gets scolded. | ○ | ○ | ○ | ○ | ○ |
| Getting mad at Patricia for ignoring you. | ○ | ○ | ○ | ○ | ○ |