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Empathy investors: Individual differences in motivational strength in empathy regulation☆

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ABSTRACT

Feeling empathy toward others can be socially beneficial but difficult to achieve. We propose that people who are more strongly motivated to regulate empathy are more likely to invest effort and ultimately succeed in doing so. In three studies ($N = 655$), we assessed individual differences in motivational strength in empathy regulation, identified its potential antecedents, and assessed its potential outcomes. With respect to potential antecedents, we demonstrate that motivational strength in empathy regulation is linked to the perceived desirability and attainability of increasing empathy (Studies 1–3). With respect to potential outcomes, we demonstrate that motivational strength in empathy regulation is linked to greater effort in increasing empathy, as assessed via self-report (Study 2) and behavioral intentions (Study 3), and to greater self-reported success (Study 2). Such links could not be explained by differences in state and trait empathy or demographics. These findings demonstrate the potential importance of motivational strength for understanding successful emotion regulation.

Empathy refers to understanding or sharing the emotions of another (e.g., Decety & Jackson, 2004; Thompson, Uusberg, Gross, & Chakrabarti, 2019). Empathy is generally associated with greater physical (Decety, 2020) and psychological (Morelli, Lieberman, & Zaki, 2015) health, and with prosocial behavior (Batson et al., 2002). Thus, at least in some contexts, the successful regulation of empathy can be beneficial. Accordingly, it is important to understand who is more likely to succeed in regulating their empathy. Whereas prior research has focused on how people regulate empathy (i.e., motivational means; e.g., Thompson et al., 2019) or on what people want to achieve by regulating their empathy (i.e., motivational content; e.g., Zaki, 2014), we propose that successful regulation of empathy may also depend on how strongly driven people are to regulate empathy (i.e., motivational strength). In this investigation, we tested whether people differ in the strength of their motivation to regulate empathy. We identified potential antecedents of motivational strength in empathy regulation and tested its associations with effort and success in regulating empathy.

1. Motivational strength in emotion regulation

The motivational literature distinguishes between the content and the strength of motivation (Atkinson, 1957; Gollwitzer, 1990). Motivational content refers to what people want, whereas motivational strength refers to the intensity with which that goal is pursued. Here, we examine motivational content and strength in emotion regulation, focusing on the regulation of empathy in particular.

Emotion regulation involves pursuing a goal to influence the emotion trajectory (Gross, Sheppes, & Urry, 2011). According to the extended process model (Gross, 2015), emotion regulation begins with an identification stage, that involves the activation of a goal to regulate emotions. Motivational content in emotion regulation refers to their desired change in emotion (e.g., do people want to increase or decrease empathy?), which determines the direction of regulation (Tamir, 2016). Motivational strength in emotion regulation refers to the strength with which people are willing to pursue their desired change (i.e., how strongly motivated people are to increase empathy?), which determines the intensity of regulation.

2. Motivational strength in empathy regulation

Empathy is a multi-componential phenomenon, involving processes that allow people to share, understand, and respond to others' emotions

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(e.g., Batson et al., 2002; Davis, 1983; Weisz & Cikara, 2021; Zaki, 2014). Although there are many different definitions of empathy (see Cuff, Brown, Taylor, & Howat, 2016), many contend that empathy involves three components – namely, understanding the emotional experiences of others (i.e., cognitive empathy, perspective-taking, theory of mind, mentalizing), sharing the emotional experiences of others (i.e., affective empathy, experience sharing, empathic distress, emotion contagion), or caring and sympathizing with others (i.e., empathic concern, compassion, prosocial concern). Certain components of empathy can be more pronounced than others, in some cases (Shalev, Eran, & Uzefovsky, 2023). However, components of empathy can be co-activated (e.g., Lamm, Decety, & Singer, 2011). Indeed, some have argued that people report experiencing empathy when all three components occur simultaneously (Weisz & Cikara, 2021).

Increasing certain forms of empathy can be socially beneficial. For example, some forms of empathy can facilitate prosocial behavior (e.g., empathic concern facilitates helping and promotes relationship quality; see Weisz & Cikara, 2021). Other forms of empathy may have less desirable effects (e.g., experience sharing may increase the risk of burnout; see Weisz & Cikara, 2021). Furthermore, the same form of empathy might have both desirable and undesirable effects, in different contexts (e.g., experience sharing may facilitate or inhibit helping, promoting or undermining relationship quality; see Weisz & Cikara, 2021). Nonetheless, there is general agreement that at least some forms of empathy are desirable, and increasing them could be socially beneficial (see Weisz & Cikara, 2021).

Although it can be socially beneficial, regulating empathy can be difficult to achieve. Increasing empathy can be emotionally exhausting (e.g., Cameron, Harris, & Payne, 2016), painful (e.g., Goubert et al., 2005), effortful (e.g., Cameron et al., 2019), and costly (e.g., Shaw, Batson, & Todd, 1994). Therefore, people are generally reluctant to engage in effortful emotion regulation (e.g., Milyavsky et al., 2018) and in effortful empathy regulation in particular (e.g., Cameron et al., 2019). Might some people be more willing than others to invest effort in empathy regulation? If so, it is important to understand what underlies such individual differences and whether they are associated with successful empathy regulation.

There is some evidence for the importance of motivational content in empathy regulation (e.g., Ferguson, Cameron, & Inzlicht, 2020; Hasson, Tamir, Brahms, Cohrs, & Halperin, 2018; Porat, Halperin, & Tamir, 2016; Zaki, 2014). However, little attention has been devoted to the possible distinction between motivational content and strength. We propose that people differ not only in whether they want to feel empathy, but also in how strongly motivated they are to feel it. Two people who consider feeling empathy equally desirable, may nonetheless differ in how much effort they are willing to invest to increase their empathy. The person who is likely to invest more (vs. less) effort may be more likely to succeed in increasing their empathy.

3. Potential antecedents and outcomes of motivational strength in empathy regulation

Motivational strength typically varies as a function of both the desirability of the target goal and its attainability (e.g., Hollenbeck & Klein, 1987; Kruglanski et al., 2002; Locke & Latham, 2013). With respect to desirability, people should be more strongly motivated to pursue a goal the more they consider it desirable. A goal is desirable if achieving it is attractive (Oettingen et al., 2009), as is often the case when a goal is in line with the person's needs, wishes, higher-order goals and attitudes (Gollwitzer & Oettingen, 2012). With respect to attainability, people should be more strongly motivated to pursue a goal the more they consider it attainable. A goal is attainable if people believe they might be able to achieve it through their actions (Gollwitzer & Oettingen, 2012). Applying these ideas to empathy regulation, our first hypothesis (**Hypothesis 1**) was that people would be more strongly motivated to increase empathy, the more they consider increasing empathy desirable or attainable.

The more strongly motivated people are to achieve a goal, the more effort they are likely to invest in its pursuit (e.g., Gollwitzer, 1990), increasing their likelihood of successful goal attainment (e.g., Locke & Latham, 2015). Whereas motivational strength refers to the potential for goal-directed action, effort refers to the intensity of the action itself (Inzlicht, Shenhav, & Olivola, 2018). Indeed, manipulating motivational strength in emotion regulation increased effort in emotion regulation, ultimately leading to greater success in emotion regulation (Gutentag & Tamir, 2022). Therefore, our second hypothesis (**Hypothesis 2**) was that people who are more strongly motivated to increase empathy would be more likely to invest effort in doing so and ultimately be more successful in increasing their empathy.

4. The present investigation

We examined motivational strength in empathy regulation in the general population (Studies 1–2) and among healthcare professionals (Study 3) who struggle to sustain empathy toward their patients (e.g., Cameron & Inzlicht, 2019; Nunes, Williams, Sa, & Stevenson, 2011). To test whether motivational strength is goal-specific, we compared individual differences in motivational strength in empathy regulation to a non-emotional goal (i.e., healthy eating; Study 2) and to another emotion regulation goal (e.g., decreasing stress; Study 3). We hypothesized that the motivation to regulate empathy would be more strongly linked to empathy-related antecedents and outcomes, than the motivation to pursue other goals (e.g., healthy eating).

To address Hypothesis 1, we tested whether people who were more strongly motivated to increase empathy perceived increasing empathy (but not other goals) as more desirable or more attainable. We measured desirability by asking participants to rate how much they wanted to increase empathy. To establish the convergent validity of our measure, we also assessed attitudes toward empathy (Studies 1–2; Netzer, Gutentag, Kim, Solak, & Tamir, 2018), expecting to find a positive association between the two measures. We measured attainability by asking participants to what extent they believed they were able to increase their empathy. To establish the convergent validity of our measure, we also measured self-efficacy in empathy regulation (Studies 2–3; e.g., Tamir, John, Srivastava, & Gross, 2007), expecting a positive association between the two measures.

To address Hypothesis 2, we tested whether people who were more strongly motivated to increase empathy were likely to invest more effort to increase empathy. To assess effort, participants indicated their willingness to engage in activities that can help them increase empathy, such as participating in a workshop on increasing empathy (Study 3). We also tested whether people who were more strongly motivated to increase empathy reported more success in regulating empathy (Study 2).

State and trait empathy refer to spontaneous empathic reactions in a specific situation or in general, respectively. People who respond more empathically (i.e., experience more empathy in particular situations or across situations) may be more motivated to increase their empathy than those who experience less empathy. To show that any associations with the motivation to regulate empathy are not driven by individual differences in the spontaneous experience of empathy, we measured and controlled for state and trait empathy in our analyses. In addition, because the experience and the motivation to experience empathy might differ as a function of gender and age (e.g., Chen, Lu, Liu, & Lin, 2014), we separately controlled for these demographic variables.

5. Study 1

In Study 1, we assessed individual differences in motivational strength in empathy regulation. To address Hypothesis 1, we tested whether motivational strength in empathy regulation was positively linked to the desirability of increasing empathy and its attainability, as

indicated by self-report. We also assessed and controlled for state and trait empathy or gender and age.

5.1. Method

This and all studies reported in this manuscript received the approval of the Institutional Review Board of The Hebrew University of Jerusalem, and all participants gave their consent to participate in the studies. We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

5.1.1. Participants

Participants were 100 (53.0% male; M_{age} = 32.63, *SD* = 10.19) Amazon Mechanical Turk (Mturk) workers (Litman, Robinson, & Abberbock, 2017). Two additional participants failed attention checks (see Oppenheimer, Meyvis, & Davidenko, 2009) and were omitted from the analyses. Participants received $3 for their participation. A power analysis using G*Power 3.0 (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that a sample of 100 was required to detect a small Pearson correlation (r = .27; 1-β = .80, α = .05).

5.1.2. Materials

5.1.2.1. Motivational strength in empathy regulation. We adapted the Motivational Strength in Emotion Regulation Scale (Gutentag & Tamir, 2022) to focus on empathy regulation in particular. Participants rated their agreement (1 = strongly disagree; 7 = strongly agree) with three items, that captured the willingness to invest effort ("I am willing to put forth a great deal of effort beyond what I'd normally do to increase my empathy"), commitment ("I am strongly committed to trying to increase my empathy"), and persistence ("I am willing to persist in trying to increase my empathy") in increasing empathy (α = .95).

5.1.2.2. Desirability and attainability of empathy regulation. To assess desirability, participants indicated how much they wanted to increase their empathy (1 – very little; 7 – very much; Gutentag & Tamir, 2022). To assess *attainability*, participants indicated how much they believed that increasing their empathy was within their reach (1 – very little; 7 – very much).

5.1.2.3. Attitudes toward empathy. We measured attitudes toward empathy, using the Evaluation of Emotion scale (Netzer et al., 2018), targeting empathy. The scale involved rating empathy on five evaluative dimensions (*1* – negative evaluation adjective; *7* – positive evaluation adjective), including bad-good, harmful-useful, foolish-wise, worthless-valuable, and redundant-necessary. Ratings were averaged, so that a higher score reflects more positive attitudes toward empathy (α = .94).

5.1.2.4. State and trait empathy. To assess state empathy, participants rated how empathetic and compassionate they felt at present (*1* – very little; *7* – very much; α = .85; e.g., Hasson et al., 2018).[1] To assess trait empathy, participants rated how often (*1* – never; *7* – every time) they felt empathy and compassion (α = .83).

5.1.3. Procedure

Participants rated their state and trait empathy, followed by the desirability and attainability of increasing empathy, and attitudes toward empathy. Participants rated their motivational strength in empathy regulation.[2] Finally, they provided demographic information.

5.1.4. Results and discussion

Table 1 presents descriptive statistics of the variables and their correlations with motivational strength in empathy regulation.[3] As expected, the desirability of increasing empathy was linked to more positive attitudes toward empathy (r = .24, p = .017), providing evidence for the validity of our measure.

Consistent with Hypothesis 1, the more people considered increasing empathy desirable, and the more they considered it attainable, the more strongly motivated they were to increase their empathy. Also as expected, people who were more strongly motivated to increase empathy tended to experience more empathy. This may indicate that people who are more strongly motivated to increase empathy feel more intense empathy or that people who feel more empathy become more strongly motivated to increase it. Importantly, the associations of motivation to increase empathy and the desirability and attainability of increasing empathy persisted when controlling for individual differences in state and trait empathy, or gender and age.

6. Study 2

In Study 2, we wanted to test the goal-specificity of our effects. Specifically, we sought to test whether the motivation to increase empathy is specific to empathy or instead captures individual differences in general motivational strength. To this end, we assessed motivational strength in empathy regulation as well as motivational strength in the regulation of a different goal – namely, healthy eating. We

Table 1
Means, standard deviations, and Pearson correlations with motivational strength in empathy regulation (N = 100; Study 1).

	Mean	*SD*	*r*
Motivational strength in empathy regulation	4.07	1.59	1
Desirability and attainability			
Desirability of increasing empathy	3.64	1.81	.65**
Attainability of increasing empathy	4.84	1.63	.52**
State and trait empathy			
State empathy	3.93	1.81	.53**
Trait empathy	4.81	1.11	.38**

Note. * p < .05, ** p < .01.

[1] Participants also rated their experience of additional filler items: positive, negative, good, bad, pleasant, unpleasant, happy, sad, afraid, joyful, angry, contented, and hostile.

[2] Data were collected as part of a larger research project, designed to address multiple research questions, and here we report on variables relevant to the current research questions. For exploratory purposes, we included some additional measures: the perceived pleasantness and usefulness of empathy, difficulties in emotion regulation, incremental theories of emotion, self-efficacy in emotion regulation, grit, self-control, internal locus of control, conscientiousness, self-esteem, optimism, depressive symptoms, perceived stress, social support, subjective well-being, psychological well-being, and an additional measure of trait empathy. Given space limitations, and because these additional measures were less central to our main hypotheses, we report analyses with these measures in the Supplemental Materials.

[3] For the full correlation table of Study 1, see Supplemental Materials.

hypothesized that the motivation to regulate empathy would be more strongly linked to empathy-related antecedents and outcomes than the motivation to pursue healthy eating. To address Hypothesis 1, we measured the desirability and attainability of increasing empathy and, separately, the desirability and attainability of healthy eating. To increase the reliability of our measures, we used two items (instead of one) to measure desirability and attainability. To address Hypothesis 2, we measured self-reported success in empathy regulation and in healthy eating regulation. We expected greater motivational strength in empathy regulation to be positively linked to self-reported success in increasing empathy, and that this association would be stronger compared to the motivational strength of healthy eating. We also assessed and controlled for state and trait empathy, or gender and age.

6.1. Method

6.1.1. Participants

Participants were 332 people recruited from Prolific (www.prolific.co; 75.6% female; M_{age} = 36.15, SD = 12.48; one participant did not indicate their sex). Twelve additional participants were omitted from analyses for failing to pass attention checks (see Oppenheimer et al., 2009). Participants received $1.70 for their participation. A power analysis using G*Power 3.0 (Faul et al., 2007) indicated that a sample of 300 was required to detect a small Pearson correlation effect size (r = .15; 1-β = .80, α = .05). To account for attrition due to attention checks, we increased the sample size by approximately 15%.

6.1.2. Materials

6.1.2.1. Motivational strength in empathy/eating regulation. We used the same scale as in Study 1 to assess motivational strength in empathy regulation (α = .91), and adapted it to assess motivational strength in healthy eating regulation (α = .80).

6.1.2.2. Desirability and attainability of increasing empathy/healthy eating. To assess desirability, in addition to the item used in Study 1 ("To what extent do you want to increase your level of empathy?"; Gutentag & Tamir, 2022), participants rated the desirability of increasing empathy ("How desirable is it for you to increase your level of empathy?"). We averaged across the two items to assess the desirability of increasing empathy (α = .91). The same items were completed with respect to healthy eating (α = .83).

To assess attainability, in addition to the item used in Study 1 ("If you want to do so, to what extent do you think that increasing your empathy is within your reach?"), participants rated their ability to increase empathy ("To what extent would you be able to increase your level of empathy, if you wanted to?"). We averaged across these two items to assess the attainability of increasing empathy (α = .83). The same items were completed with respect to healthy eating (α = .81).

6.1.2.3. Attitudes toward empathy. We used the same scales as in Study 1 (Netzer et al., 2018; α = .89).

6.1.2.4. Self-efficacy in empathy/eating regulation. To measure self-efficacy in empathy regulation, participants rated their agreement (1 = strongly disagree; 5 = strongly agree) with four items. These items were adapted from the Implicit Theories of Emotion Scale (Tamir et al., 2007), targeting the regulation of empathy (e.g., "I can learn to increase my empathy"). We reverse-scored two items in each scale and averaged across the items (α = .88). The same items were completed with respect to healthy eating (α = .72).

6.1.2.5. Perceived success in regulating empathy/healthy eating. To assess perceived success in regulation, participants rated two items on how often (1 – never; 4 – sometimes; 7 – always) they succeed in increasing their empathy (e.g., "How often do you succeed in making yourself feel more empathetic?" and "How successful are you in increasing your empathy when you want to?"; α = .94). Similar items were completed with respect to healthy eating (α = .94).

6.1.2.6. State and trait empathy. We used the same scales as in Study 1, to assess state empathy (α = .80), and trait empathy (α = .88), except that trait empathy was rated on a different scale (0 – not at all; 100 – all the time).

6.1.3. Procedure

Participants first rated their trait empathy, and the desirability and attainability of increasing empathy. Then, they rated their self-efficacy in empathy regulation, and attitudes toward empathy. Next, they completed the motivational strength in empathy regulation scale, and rated their perceived success in regulating empathy. Next, participants rated the desirability and attainability of healthy eating, their self-efficacy in eating regulation, the motivational strength in eating regulation scale, and their perceived success in regulating healthy eating.[4] Finally, participants provided demographic information.

6.1.4. Results and discussion

Table 2 presents descriptive statistics of the variables and their correlations with the motivational strength scales.[5] As expected, the

Table 2
Means, standard deviations, and Pearson correlations with motivational strength in empathy and healthy eating regulation (N = 332; Study 2).

	Mean	SD	$r_{empathy}$	$r_{healthy\ eating}$	Significance test
Motivational strength in empathy regulation	4.02	1.54	1	.15*	
Motivational strength in eating regulation	5.01	1.33	.15*	1	
Desirability					
Desirability of increasing empathy	4.27	1.65	.73**	.07	Z = 10.87, p < .001
Desirability of healthy eating	5.86	1.20	.20**	.62**	Z = 6.50, p < .001
Attainability					
Attainability of increasing empathy	4.88	1.42	.49**	.16*	Z = 4.71, p < .001
Attainability of healthy eating	5.79	1.04	.07	.51**	Z = 6.26, p < .001
Potential outcomes					
Perceived success in regulating empathy	4.23	1.41	.61**	.13*	Z = 7.27, p < .001
Perceived success in regulating healthy eating	4.73	1.23	.01	.69**	Z = 10.73, p < .001
State and trait empathy					
Experienced empathy	2.73	1.03	.29**	.19**	Z = 1.34, p = .178
Trait empathy	69.88	18.78	.32**	.14*	Z = 2.42, p = .015

Note. * p < .05, ** p < .01.

[4] Data were collected as part of a larger research project, designed to address multiple research questions, and here we report on variables relevant to the current research questions. For exploratory purposes, we included some additional measures: incremental theories of empathy, self-control, participants' desire to receive materials on regulation of the target emotion and provide their Prolific e-mail in case they wanted to receive such materials, state emotions, and an additional measures of trait empathy. We report analyses with these measures in the Supplemental Materials.

[5] For the full correlation table of Study 2, see Supplemental Materials.

desirability of increasing empathy was linked to more positive attitudes toward empathy ($r = .31$, $p < .001$). In addition, the attainability of increasing empathy was linked to higher self-efficacy in empathy regulation ($r = .53$, $p < .001$). This provides support for the validity of our measures of desirability and attainability.

Consistent with Hypothesis 1, greater motivational strength in empathy regulation was positively linked to the desirability of increasing empathy and the attainability of increasing empathy. These links were goal-specific, as they were stronger for motivational strength in empathy regulation than for motivational strength in healthy eating regulation. The converse was found with respect to the healthy eating motivation.

Consistent with Hypothesis 2, greater motivational strength in empathy regulation was linked to greater perceived success in regulating empathy, showing goal-specificity. The converse was found with respect to the healthy eating motivation. These links held when controlling for individual differences in state and trait empathy, or gender and age. Trait empathy was more strongly linked to the motivational strength in empathy regulation than to motivational strength in eating regulation. However, contrary to our prediction, both types of motivation were similarly and positively linked to state empathy. Overall, motivational strength in empathy regulation was linked to its hypothesized antecedents and outcomes, with evidence for goal-specificity.

7. Study 3

In Study 3, we tested whether motivational strength in empathy regulation matters for people who deal with persistent empathy-related challenges. We targeted health professionals who struggle with the constant demands to sustain empathy toward patients (e.g., Nunes et al., 2011). Following Hypothesis 1, we predicted that the more health professionals found increasing empathy desirable or attainable, the more strongly motivated they would be to achieve it. Following Hypothesis 2, we predicted that health professionals who were more strongly motivated to increase empathy would exert more effort to increase empathy. To assess effort, we informed participants that we planned to offer a workshop on increasing empathy and asked how interested they would be in participating in such a workshop. We predicted that health professionals who were more strongly motivated to increase empathy would be more willing to participate in a workshop on increasing empathy. To test the goal-specificity of these effects, we assessed the motivation to increase empathy as well as the motivation to decrease stress. We expected the motivation to increase empathy to be more strongly linked to empathy-related antecedents and outcomes than the motivation to decrease stress. As in Studies 1–2, in our analyses, we also assessed and controlled for state and trait empathy, or gender and age.

7.1. Method

7.1.1. Participants

Participants were 223 health professionals (114 social workers and 109 medical students; 68.6% female; $M_{age} = 31.00$, $SD = 8.72$, 6 participants did not specify their age and sex). Ten additional participants were excluded because they failed to meet pre-determined criteria for inclusion: nine participants had not yet completed their social work studies, and one participant had already graduated from medical school. Participants received approximately $11 for their participation. A power analysis using G*Power 3.0 (Faul et al., 2007) indicated that a sample of 193 was required to detect a small Pearson correlation ($r = .20$; 1-β = .80, $\alpha = .05$). To account for attrition due to attention checks, we increased the sample size by approximately 15%.

7.1.2. Materials

7.1.2.1. Motivational strength in empathy/stress regulation. We used the same scale as in Study 1 (excluding the persistence item) to assess motivational strength in empathy regulation ($\alpha = .84$), and adapted it to assess motivational strength in stress regulation ($\alpha = .80$).

7.1.2.2. Desirability and attainability of increasing empathy/decreasing stress. To assess desirability, participants rated (1 – very little; 7 – very much) the desirability of increasing empathy at work (i.e., "How desirable is it for you to increase your level of empathy in your work?"). The same item was completed with respect to decreasing stress. To assess attainability, participants rated (1 – very little; 7 – very much) the attainability of increasing empathy at work (i.e., "If you wanted to, to what extent would you be able to increase your level of empathy at work?"). The same item was also completed with respect to decreasing stress.

7.1.2.3. Self-efficacy in empathy/stress regulation. As in Study 2, to measure self-efficacy in empathy regulation, participants rated the Implicit Theories of Emotion Scale (Tamir et al., 2007), targeting the regulation of empathy ($\alpha = .85$). The same items were completed with respect to stress regulation ($\alpha = .83$).

7.1.2.4. Behavioral intentions to regulate empathy. Participants were informed about a workshop for health professionals on increasing empathy, or a workshop on decreasing stress, and were asked to rate the extent to which they wanted to participate in each workshop (1 – very little; 7 – very much).

7.1.2.5. Trait empathy and stress. To assess trait empathy and trait stress, participants rated how often they feel empathy and stress, respectively, in their clinical work (*1* – never; *4* – sometimes; *7* – always).

7.1.3. Procedure

Items were grouped by emotion regulation goal (i.e., empathy, stress), and presented in a counterbalanced order. In each block, participants rated their trait emotions, the desirability and attainability of regulating the target emotion in their clinical work, and their motivational strength to regulate the target emotions. Then, they rated their self-efficacy in regulating the target emotion.[6] Next, they provided demographic information. Finally, participants were informed about the future workshop aimed at regulating the target emotion and indicated their willingness to participate in it.

7.1.4. Results and discussion

Table 3 presents descriptive statistics of the variables and their correlations with motivational strength.[7] As expected, the attainability of increasing empathy was linked to self-efficacy in empathy regulation ($r = .53$, $p < .001$), providing support for the validity of our attainability measure. Consistent with Hypothesis 1, health professionals who perceived increasing empathy toward their patients as more desirable and attainable were more strongly motivated to increase their empathy. These links were goal-specific. Consistent with Hypothesis 2, health

[6] Data were collected as part of a larger research project, designed to address multiple research questions, and here we report on variables relevant to the current research questions. For exploratory purposes, we included some additional measures: the perceived pleasantness and usefulness of empathy and stress, incremental theories of increasing empathy and decreasing stress, self-reported regulation attempts, depressive symptoms, subjective well-being, self-esteem, state emotions, and additional measures of trait empathy and stress. We report analyses with these measures in the Supplemental Materials.

[7] For the full correlation table of Study 3, see Supplemental Materials.

Table 3
Means, standard deviations, and Pearson correlations with motivational strength in empathy and stress regulation ($N = 223$; Study 3).

	Mean	*SD*	$r_{empathy}$	r_{stress}	Significance test
Motivational strength in empathy regulation	5.30	1.38	1	.21*	
Motivational strength in stress regulation	4.95	1.37	.21*	1	
Desirability					
Desirability of increasing empathy	5.29	1.65	.63**	.09	$Z = 6.73$, $p < .001$
Desirability of decreasing stress	5.18	1.52	.15*	.34**	$Z = 2.10$, $p = .035$
Attainability					
Attainability of increasing empathy	5.19	1.36	.48**	.28**	$Z = 2.39$, $p = .017$
Attainability of decreasing stress	4.44	1.52	.16*	.14*	$Z = 0.21$, $p = .831$
Regulatory effort					
Behavioral intentions to regulate empathy	3.45	1.89	.17*	.03	$Z = 1.48$, $p = .138$
Behavioral intentions to regulate stress	4.28	2.05	.03	.18*	$Z = 1.59$, $p = .111$
State and trait empathy					
Trait empathy	5.66	0.74	.16*	.10	$Z = 0.64$, $p = .524$
Trait stress	4.54	1.20	.01	.15*	$Z = 1.48$, $p = .138$

Note. * $p < .05$, ** $p < .01$.

professionals who were more strongly motivated to increase empathy toward their patients were more willing to participate in a workshop designed to help them regulate empathy more effectively. These links were goal-specific, as they were significant for motivational strength in empathy (but not stress) regulation. These links held when controlling for individual differences in trait empathy, or gender and age.

8. General discussion

Building on the distinction between motivational content and strength (e.g., Atkinson, 1957), our findings show that people differ not only in whether they want to feel empathy but also in how intensely they want to feel it. Whereas some people are more strongly motivated to increase empathy, others are less strongly motivated to increase it. In particular, people who find increasing empathy more desirable and more attainable are more strongly motivated to increase their empathy. Furthermore, people who were more strongly motivated to increase their empathy were willing to invest more effort to regulate it. For instance, health professionals who were more motivated to increase empathy were more likely to agree to participate in a workshop on regulating empathy. Finally, people who were more motivated to increase their empathy reported greater success in increasing empathy and more intense experiences of empathy. These effects were generally goal-specific, such that the motivation to increase empathy (but not other states) was more strongly linked to empathy-related variables.

8.1. Theoretical implications

Building on the motivational literature (e.g., Gollwitzer & Oettingen, 2012; Kruglanski et al., 2002) and focusing on the unique case of empathy, our findings demonstrate that motivational strength in empathy regulation is informed by the desirability of increasing empathy and its attainability. With respect to desirability, our findings are consistent with research pointing to the importance of emotion regulation goals (see Tamir, 2016). For instance, the more people want to experience an emotion, the more likely they are to select stimuli that induce that emotion (Sims et al., 2018; Tamir & Ford, 2012). With respect to attainability, our findings are consistent with research on self-efficacy in emotion regulation. For instance, leading people to believe they can regulate their emotions made them more likely to succeed in emotion regulation (Bigman, Mauss, Gross, & Tamir, 2016).

In terms of its potential outcomes, our findings demonstrate that people are more likely to invest effort in empathy regulation and succeed in regulating their empathy, the more strongly motivated they are to increase empathy. Motivational strength in empathy regulation may help account for differences in the willingness to invest in empathy-inducing activities. More generally, differences in motivational strength in emotion regulation may underlie differences in the active pursuit of desirable emotion regulation goals (e.g., Suri, Whittaker, & Gross, 2015).

8.2. Applied implications

Our findings are relevant for people who may be expected to feel empathy due to the social nature of their profession (occupations requiring intense "emotional labor"; e.g., physicians, psychologists, teachers; e.g., Grandey, 2000). Although the motivation to increase empathy may be high among such individuals, pursuing this goal can be costly. The current research raises the possibility that such individuals may be more likely to successfully increase or maintain empathy, the more strongly motivated they are to do so. This, in turn, could have implications for professional success, as well as implications for personal and relational well-being.

Motivational strength in empathy regulation depends, in part, on two critical factors – the desirability of increasing empathy and its attainability. This implies that to actively increase empathy, it may be necessary to ensure that people consider this goal sufficiently desirable. This idea is consistent with research on motivated emotion regulation, showing that rendering an emotion more or less desirable has a direct impact on the strength of motivation people have to regulate their emotions, how people regulate their emotions, and how they ultimately feel (e.g., Gutentag & Tamir, 2022; Tamir, 2016).

Our findings also point to the importance of considering attainability. Attainability is likely informed by objective factors, as determined by regulation skills, as well as by selecting and implementing effective means (e.g., Kneeland, Nolen-Hoeksema, Dovidio, & Gruber, 2016). However, attainability may also be informed by subjective factors, as reflected, for instance, by beliefs about the controllability of empathy (e.g., Ford & Gross, 2019) or beliefs in one's ability to empathize with patients, in particular (Michael, Gutgeld Dror, & Karnieli-Miller, 2019). Future research could design and test interventions targeting the desirability and/or attainability (either objective or subjective) of increasing empathy to promote motivational strength in empathy regulation.

8.3. Limitations and future directions

This research has several limitations. First, to examine the contribution of motivational strength in empathy regulation, we focused on empathy as a uniform construct. However, in some cases, one component of empathy may be more pronounced than another. This has been defined as 'empathic disequilibrium' (Shalev et al., 2023). For instance, higher cognitive relative to the emotional component of empathy was found to be associated with depression symptoms (Shalev et al., 2023). To the extent that some components may be more salient than others for some individuals or in some contexts, it may be important to separately assess the motivation to regulate the different components of empathy. For instance, the strength of the motivation to regulate empathic concern may be more strongly linked to prosocial outcomes than the strength of the motivation to regulate empathic distress. Future research could test such possibilities directly.

Second, this is a cross-sectional investigation. We considered desirability and attainability as potential antecedents of motivational strength in empathy regulation. This approach is consistent with existing

evidence for the role of desirability in shaping motivational strength in emotion regulation (Gutentag & Tamir, 2022). Nonetheless, it is possible that greater motivational strength in empathy regulation increases the perceived desirability, or attainability, of increasing empathy. Likewise, we expected greater motivational strength in empathy regulation to increase effort and success in empathy regulation. While there is some evidence that motivational strength in emotion regulation can influence regulation success (Gutentag & Tamir, 2022), it is possible that people who tend to be more successful in increasing their empathy cultivate a stronger motivation to do so. To test the directionality of these associations, future studies should use experimental designs.

Third, motivational content and motivational strength were highly correlated (65, .73, and .63 in Studies 1–3, respectively). In addition to being empirically related, motivational content and strength are conceptually related (e.g., Atkinson, 1957). Although these correlations are high, Lawson and Robins (2021) only refer to correlations above .80 as identical constructs. Such high correlations are expected in cases where measurement error is high and where shared method variance is high (Lawson & Robins, 2021), as in this case. The conceptual and empirical link between motivational content and strength suggests that they are sibling constructs, but not identical constructs (Lawson & Robins, 2021).

Fourth, motivational strength in empathy regulation was mostly goal-specific. However, the attainability of decreasing stress was equally linked to motivational strength in empathy and stress regulation (Study 3). Future research could examine whether there is a general component of attainability in achieving emotion regulation goals, by comparing links between general and specific beliefs in the ability to control emotion and motivational strength.

Fifth, this investigation focused on desirability and attainability as two potential antecedents of motivational strength in empathy regulation, but there may be others. For instance, the cost of effort might be a third antecedent (Tamir, 2021). Future research can assess perceived cost as another antecedent of motivational strength in empathy regulation.

Sixth, our findings suggest that motivational strength in empathy regulation may be explained, in part, by the desirability of increasing empathy and its attainability. A key question, however, is how desirability and attainability operate together to determine motivational strength in empathy regulation. Some models suggest that the effects of desirability and attainability might be additive (e.g., Harrison & Liska, 1994). Other models suggest that the effects might be interactive (e.g., Kruglanski et al., 2002). In such an interaction, attainability might be relevant only when desirability rises above a certain threshold (Kruglanski, Chernikova, Rosenzweig, & Kopetz, 2014). As another possible interaction, desirability might be relevant only when attainability rises above a certain threshold. It is also possible that, in some contexts, desirability is more influential, and in others, attainability is more influential. Whether and how desirability and attainability interact is an important task for future research.

Finally, the present investigation examined emotion regulation in psychologically healthy adults. Emotion regulation deficits characterize many different psychological disorders (Gross et al., 2011). Depressed people are able to implement emotion regulation (Liu & Thompson, 2017(, yet they fail to use the same strategies in daily life (Yoon & Rottenberg, 2019). Future research could assess motivational strength in emotion regulation in psychopathology and the potential role that it plays in dysfunctional patterns and outcomes of emotion regulation.

9. Conclusion

People differ in their motivational strength in empathy regulation. The desirability and attainability of increasing empathy are associated with how strongly motivated people are to increase empathy. Such motivational strength, in turn, is linked to effort and success in increasing empathy. These findings demonstrate the importance of motivational strength in emotion regulation, and in empathy regulation in particular. This understanding may be particularly important for healthcare professionals, for whom empathy is often required on the job.

CRediT authorship contribution statement

Tony Gutentag: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **Yossi Hasson:** Writing – review & editing, Project administration, Investigation. **Orit Karnieli-Miller:** Writing – review & editing, Methodology. **Maya Tamir:** Writing – review & editing, Writing – original draft, Supervision, Resources, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization.

Declaration of competing interest

None.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.paid.2024.112753.

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