SUCCESS AND FAILURE INFLUENCE
HOPEFUL THINKING
IN POLISH WOMEN AND MEN DIFFERENTLY

Weronika Daria Trzmielewska[1], Paweł Brzóska[2], and Mariusz Zięba[2]

[1] SWPS University of Social Sciences and Humanities, Warsaw

[2] SWPS University of Social Sciences and Humanities, Poznan

In Snyder' theory the construct of hope is central to successful goal attainment. The present studies aimed to examine whether the experience of success versus failure in goal pursuits influence state hope, as was found in previous research. In Study 1, the participants completed a scale assessing current hopeful thoughts, in which they recall and describe successful, or unsuccessful goal pursuits. Then they again completed the state hope scale. In Study 2, the participants were instructed to complete two measures, assessing current hopeful thinking, and self-esteem. Then, they performed anagram tasks—representing easy, mixed, or difficult levels of difficulty, in which they respectively succeed, perform neutrally, or fail, or were assigned to control condition (the participants were sitting only). Next, they filled in the same two scales. In Study 1, state hope increased in the respondents who recalled successful goal pursuits, and decreased in those who recalled unsuccessful goal pursuits. However, this effect was moderated by gender: thinking about success increases state hope only in men, whereas thinking about failures decreases state hope just in women. In Study 2, those who experience failure experienced a decrease in state hope. However, such an effect was found only in women.

Keywords: state hope; goal pursuit; sex differences.

The past few decades of research have used hope as a synonym for everything positive and faithful (Muyskens, 1979). Hope had mostly been treated as a tool for recovering in stress areas and as a secure social base. Hope had been also described as a fundamental belief that the word is well-organized, rational, and friendly (i.e., as an individual worldview; Erikson, 1963, 1964). Trzebiński and Zięba (2004) underlined the role of hope in skills to adapt themselves to unknown situations or adapt to situations related to the collapse of the existing order. In the 1990s, hope began to be viewed as a unidimensional construct involving a perception that specified goals could be achieved (Pervin, 1989). Snyder's (2000, 2002) theory of hope highlighted that hope is a process in which people continually think about themselves concerning their goals. Yet, hopeful people—when compared with hopeless ones—may provide a more adaptive response to goal blockage, because they may initiate and generate alternative paths when the original route is blocked (Snyder, 2002). Indeed, hopeful people may not only perceive themselves as effective problem solvers (Atik & Atik, 2017), but they may also use more adaptive coping strategies (as challenge-like appraisal of a problem; Chang & Banks, 2007), be more successful in problem-solving performance (e.g., produce more and better solutions of problems; Trzmielewska et al., 2022), and be more effective in strengthening academic performance (Marques et al., 2017). Beyond this, hope may lead to other intra- and interpersonal benefits. For example, more hope is associated with stronger positive affect, more positive thoughts, and fewer depressive symptoms (Lenz, 2021).

In Snyder's (2002) theory, hope is described as an interconnected sense of a) *agency* (willpower) and b) *pathways* (planning solutions). Agency refers to thoughts about the perceived ability to initiate and the determination to achieve a goal. Pathways refer to thoughts about the perceived ability to find various ways to achieve the goal or routes around problems that a person faces. One component alone is insufficient to constitute hope (Snyder, 2002). The ability to use the willpower that arises from agency, or the ability to produce a variety of ways to accomplish a goal, may not itself guarantee the effective implementation of goal pursuits.

Although at its essence the definition of hope is clearly cognitive, different emotional states may correspond with hopeful (positive emotions) and hopeless (negative emotions) thoughts (Snyder et al., 2000). In Snyder's theory, emotional processes are perceived as a by-product of cognitive appraisals of goal-directed activities. In Snyder's (2000) theory, hope is conceptualized both as a disposition and as a state. Dispositional hope considers a system of stable convictions that applies across situations and times. State hope considers thoughts related to close events. People with higher dispositional hope may react with higher state hope in everyday life circumstances (the correlation between both is high). However, state hope seems much more malleable in response to ongoing events (Snyder et al., 1996).

Goal-Directed Thinking and Motivation and Behaviour

When goal-directed thinking arises, either by conscious or unconscious means, it may guide people's goal-relevant cognition, affect, and behaviour (Chartrand & Bargh, 1996). Goal-directed thinking has been found to have a positive effect on task performance (Shantz & Latham, 2011). Induced goal-oriented thinking can promote goal-directed actions, persistence at task performance when facing obstacles, or the resumption of a task after a disruption (Bargh et al., 2001). Goal-oriented thinking can typically change people's actual mental states and may increase agentic self-concepts or self-efficacy (Baryła & Wojciszke, 2019; Emmons, 1986). Also, when experimentally induced, such thinking may improve (or reduce) current hope thoughts (Snyder et al., 1996).

The ability to produce hopeful thinking is partially based on a history of successful goal pursuits (Snyder, 1994; Snyder et al., 1999). This is expected because, when effective goal attainment is experienced, the current memories and appraisals are positive. It can arouse self-enhancing processes which may improve hopeful thoughts (Ling et al., 2016). However, when faced with unattainable goals, the actual memories and appraisals are negative (Snyder, 2002). It can arouse feelings of some kind of blockage that seems to reduce hopeful thinking (such feelings may spread to produce predictions about later problems). Therefore, hope may be built upon and be modified by past life experiences. Hope can also be facilitated by longitudinal training programmes focused on goal setting (Curry et al., 1999, as cited in Curry & Snyder, 2000).

State hope may change by manipulating current laboratory settings that involve goal orientation (Snyder et al., 1996). Recollection of autobiographical memories of successful or unsuccessful goal pursuits, respectively, increased/decreased state hope (Snyder et al., 1996, Study 3). This technique is not very distinct from what happens naturally, because memories are often brought to mind innately (Hertel et al., 2021). Furthermore, actual performance can also affect the person's actual hopeful thoughts (Snyder et al., 1996). For example, the participants performed anagrams (cognitive task) that represented three levels of difficulty—easy, mixed, and difficult—and received verbal feedback (positive, neutral, or negative for each condition; Snyder et al., 1996, Study 2). Those who performed difficult anagrams reported reduced state hope, while those who performed easy anagrams reported improved state hope.

It is important to note that gender differences in hope sometimes occur. Such group differences has been found, especially among adolescents in dispositional hope (e.g., Esteban-Gonzalo et al., 2020; Sengupta & Karmakar, 2021), i.e. young men may be more hopeful than young women (but see meta-analysis by Yarcheski and Mahon, 2014, where variability in statistical findings was

found across gender differences in dispositional hope in adolescence). Such differences are often explained through two types of origin theories—those related to 1) different dispositions (e.g., men may perceive a higher self-efficacy of affect regulation and thought, and more robust self-esteem than women, e.g., Graves et al., 2021; however, the reported effects sizes are typically small, Kling et al., 1999; Zuckerman et al., 2016), and 2) social structure (e.g., social roles associated with femininity have been related to stronger concerns about relations than those associated to masculine roles (Helgeson, 2003), it is important because women's self-view, e.g., self-esteem seems to be stronger connected to other's view of oneself than in men). Gender gaps in hope are not consistently stable across studies (Snyder, 2002; Snyder et al., 1996). For example, in studies mentioned above (Study 2 and 3, Snyder et al., 1996), there were no gender differences in state hope. Regardless of it, it can be carefully summarized that when such differences occur, they may be in part driven by mechanisms that reflect sociocultural factors, and those generically-based processes that transcend culture and context (Zuckerman et al., 2016).

Current Study

This work was carried out as a replication because the mentioned experiments probably have not been replicated overseas (Snyder et al., 1996). The secondary purpose was to find if the general results of Snyder et al. (originally obtained in the United States), would be relevant in a different culture (Poland). Many dimensions of cultural variability have been developed to differentiate cultures (e.g., individualism vs collectivism, femininity vs masculinity; Hofstede, 2001). Yet, prior work has been conducted in the USA, a country with a strongly individualistic cultural system, if compared with Poland (such differences are small, however; Oyserman et al., 2002). Poland is at an intermediate level of collectivism and individualism. However, it is dominated by Catholicism and as such is connected more with collectivistic than individualistic values (Boski, 2006). When importance is placed on individualistic values, people may assume responsibility for successes through self-enhancement processes and may tend to downplay responsibility for failures (Carducci, 2012). When it is laid on collectivistic values, people may tend to interpret success due to external factors, and may deal with failures by condemning abilities (Heine & Lehman, 1999).

Within cultures, people may also develop discrepancies related to a person's gender (a gender belief system; Kite & Whitley, 2016). People may internalise the culture's notions of their gender (Bussey & Bandura, 1999). Such systems may include beliefs about traits women and men should possess or attitudes about which roles

are suitable for them (Levesque, 2011). In Poland, there seems to be less overlap in the social roles of gender compared with the United States (but these differences are small; World Economic Forum, 2021, 2009). Women in Poland can be rewarded in many spheres of life for modesty, underestimating abilities, and defensive behaviours (Doliński, 1993). On the contrary, men are often expected to have faith in their abilities and to act offensively. As mentioned above, in the United States both genders can be treated subtly more equally than in Poland (World Economic Forum, 2021). For example, Lloyd et al. (2005) reported more similarities than differences when examining success and failure attribution among Canadian students. While gender differences do exist in the United States (England et al., 2020), they can be smaller than those in Poland, and can also have different dynamics. In the United States, they narrowed dramatically in the 1980s and 1990s and have relatively stalled (England et al., 2020). In Poland, such processes occurred more dynamically at a later time. Interestingly, in a prior study on a Polish sample state hope functioned differently across genders (Trzmielewska et al., 2022). In women who recalled failures (but not successes), state hope influenced engagement in solving social problems (they produced more and better quality solutions). In men, such an effect was found only when they recalled successes. Therefore, replication was performed with close attention to gender differences.

Ethical approval was obtained from the SWPS University of Social Sciences and Humanities from the Ethics Committee for Scientific Research, Faculty of Psychology, Poland. All materials in both studies were used in Polish (forward translated—from English to Polish). Supplemental materials and datasets underlying the presented study are available at https://osf.io/gp4ve/?view_only=63a7c4c7b5c-442c296842ee4649703c13.

STUDY 1:
THE IMPACT OF GOAL PURSUITS RECALL ON STATE HOPE

In the study by Snyder et al. (1996, Study 3) people who recalled a successful vs unsuccessful goal pursuit, experienced an increase and a decrease in state hope respectively. Based on it, the main hypotheses in this study are the following: H1. People who recall a successful goal pursuit will experience an increase in state hope. H2. People who recall an unsuccessful goal pursuit will experience a decrease in state hope.

Method

Participants

Data for this experiment were collected at the SWPS University of Social Science and Humanities (Poznan and Warsaw, Poland) in exchange for course credit. The whole sample consisted of 153 participants. Three participants were excluded from analyses because they had failed to follow instructions in the experimental manipulation. The final sample consisted of 150 participants (76 women, 74 men, with one missing value) aged 20–57 (M_{age} = 26.01, SD = 6.25),[1] randomly assigned to the Successful (n = 51), Unsuccessful (n = 48), or Control (n = 51) condition. In the original study (Snyder et al., 1996) students from various psychology courses were recruited. In the current study, most of the respondents were also recruited from psychological faculties, and a minority of them were from law and technical faculties (such as computer science or graphic design).

Procedure

Participation was individual with one research assistant (male or female) present. All the participants had been informed about their rights. They were told that the experiment tests diverse ways of thinking regarding the performance of relaxation and visualization tasks. At the beginning, all the participants were asked to fill a measure of state hope. The participants in experimental conditions recalled and described in an open format successful or unsuccessful experiences in goal pursuit (Snyder et al., 1996, Study 3). The participants in these both conditions were at first instructed to relax (for 30 seconds), and then to recall a sense of successful/unsuccessful goal pursuits. In the control condition there were only instructions that consisted of steps that helped participants to relax (for five minutes). After it, all the participants were asked to write down what they had been thinking in the last few minutes. After finishing it, they answered control questions and again completed the state hope scale. Finally, they were debriefed, thanked, and received course credit points (if needed).

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[1] In the original study, Snyder and colleagues did not provide information about the age of the respondents (Study 2 and 3), making it impossible to compare the groups in this aspect of the sample selection. However, both the presented and original studies were based on student samples, so the participants' age should be comparable.

Materials

Manipulation Check of Recall-Induced Task. There were four control questions (based on Snyder et al., 1996) that tested the participants' engagement, perceived difficulty, and the general valence of the recall-induced task (see Supplemental Materials).

State Hope. To measure the state hope, the Adult State Hope Scale (ASHS; Snyder et al., 1996) was used. The scale consists of six items (e.g., "At the present time, I am energetically pursuing my goals"). Each item was rated using an 8-point Likert scale (from 1 = *definitely false* to 8 = *definitely true*). A mean state hope score was computed for all items (Cronbach's α for pre-test = .86 and for post-test = .91).

Data Analyses

The study employed the between-subject independent variables of the recall condition, the within-subject independent variable of time (pre- vs post-tests) on a study sample, and the dependent variable of state hope. The Wilcoxon signed-rank test was conducted given the non-normal nature of the dependent variable.

Results

Descriptive Statistics and Manipulation Check

Randomization was successful for age $F(2, 145) = 1.61$, $p = .203$, in Success condition ($M_{age} = 25.54$, $SD = 5.59$), Unsuccessful condition ($M_{age} = 27.34$, $SD = 7.54$), Control condition ($M_{age} = 25.24$, $SD = 5.42$), and gender ratio, $\chi^2(2, N = 149) = 0.04$, $p = .979$. The results also showed that the participants reacted to the manipulation as expected (see the details in Supplemental Materials).

Main Effects

The type of recall-induced conditions affected state hope. The participants who recalled a successful goal pursuit had higher state hope than in the pre-test. Those who recalled unsuccessful goal pursuit had lower state hope than in the baseline. In the Control condition, the participants had a higher state hope when compared to the baseline (Table 1). Significant differences were found when considering the gender factor in analyses. In the female participants, there were no significant effects in the Successful condition. There was, however, a significant effect

in the Unsuccessful, and in the Control condition. The women who recalled unsuccessful goal pursuit had lower state hope than in the pre-test. After completing the relaxation task their state hope was higher than in the baseline. In the male participants, there was a significant effect, only when they recalled a successful goal pursuit (Table 1). Additionally, there were no gender differences in the baseline state hope ($U = 2771.00$, $Z = 0.01$, $p = .991$).

Table 1

Descriptive Statistics for the Influence of Recall-Induction Types on State Hope. Whole Sample and Gender Differences

Condition	N	State hope pre-test			State hope post-test			Wilcoxon signed-rank test
		Mdn	*M*	*SD*	*Mdn*	*M*	*SD*	
Total								
Control	51	6.33	6.27	1.00	6.50	6.42	1.09	$Z = 2.23$, $p = .026$
Successful	51	6.17	6.08	0.98	6.17	6.29	1.06	$Z = 2.77$, $p = .006$
Unsuccessful	51	6.50	6.24	1.09	6.33	6.00	1.32	$Z = -2.30$, $p = .021$
Women								
Control	26	6.17	6.09	1.03	6.67	6.42	1.12	$Z = 3.36$, $p < .001$
Successful	25	6.33	6.34	1.03	6.50	6.51	1.17	$Z = 1.54$, $p = .125$
Unsuccessful	25	6.33	6.07	1.18	5.83	5.62	1.52	$Z = -2.84$, $p = .004$
Men								
Control	25	6.33	6.47	0.95	6.50	6.41	1.09	$Z = -0.87$, $p = .385$
Successful	25	6.00	5.79	0.86	6.00	6.03	0.91	$Z = 2.23$, $p = .026$
Unsuccessful	23	6.50	6.41	0.93	6.50	6.37	0.92	$Z = -0.37$, $p = .713$

Discussion of Study 1

The present experiment tested whether state hope can be induced experimentally through goal-oriented thinking, as had been found in the original study (Snyder et al., 1996, Study 3). The findings were likely to replicate the aforementioned results. When recalling successful goal pursuits, the respondents reported higher state hope when compared with the baseline. Furthermore, when recalling unsuccessful goal pursuits, they reported lower state hope than in the pretests. These findings seem to be in line with those of Snyder et al. (1996, Study 3), where the recollection of successful or unsuccessful goal pursuits resulted in improved and reduced current hopeful thoughts, respectively.

When looking at gender differences in the present study, state hope functioned differently between the women and men. This was inconsistent with the original results, where such differences were not noted. It should be mentioned that the baseline state hope scores did not differ between the genders, a finding in line with the original study (Snyder et al., 1996). Although in this study manipulation was effective for women only when they recalled unsuccessful goal pursuits, for men this pattern was the opposite. Men who recalled successful goal pursuits had a higher degree of hope (compared with the baseline), but there was no effect when they recalled unsuccessful goal pursuits. Therefore, only in men do experiences of successful goal-related cognition engender a kind of empowerment, which would, in turn, improve their hopeful thoughts (Snyder, 2000). On the other hand, only in women do experiences of unsuccessful goal-related cognition lead to a kind of blockage, which could, in turn, result in a reduction in current hopeful thoughts.

STUDY 2:
THE IMPACT OF PERFORMANCE FEEDBACK ON STATE HOPE

In the study by Snyder et al. (1996, Study 2), people who performed difficult anagrams experienced a decrease in state hope, whereas those who performed easy anagrams experienced an increase in state hope. Based on that, the main hypotheses of this study are the following: H1. People who succeed in pursuit of a goal will experience an increase in state hope. H2. People who fail in pursuit of a goal will experience a decrease in state hope.

In addition, correlation analyses between state hope and state self-esteem were conducted. The state self-esteem measures were also covaried to check if state-hope have discriminant validity above state self-esteem (Snyder et al., 1996, Study 2).

Method

Participants

Data for this study were collected at the SWPS University of Social Science and Humanities (Poznan, Poland) in exchange for course credit. The whole sample consisted of 168 participants (93 women, 73 men, with the two missing values) aged 18–56 (M_{age} = 27.56, SD = 8.04), randomly assigned to the Easy anagrams (n = 42), Difficult anagrams (n = 42), and Mixed anagrams (n = 43), and Control (n = 41)

group. In the current study, the participants were recruited only from psychological faculties, similarly to the original study (Snyder et al., 1996, Study 2).

Procedure

The subjects took part with only one research assistant (male or female) present. They had been informed about their rights and aims of the study, and that the aim of the experiment was to investigate how people experience and approach the learning process (Snyder et al., 1996, Study 2). At the beginning, the participants were asked to fill a measure of state hope and state self-esteem. Then they performed the anagram tasks and were given performance feedback associated with study conditions. In all conditions, the tasks took six minutes. In the Control condition, the participants just sat quietly. After finishing, those from experimental conditions answered control questions. Then, all completed the second state hope and self-esteem measure. Finally, they were debriefed, thanked, and those who needed received course credit points.

Materials

Anagram Tasks and Performance Feedback. Anagrams (scrambled letters to be rearranged to form an existing word) were created specifically for this experiment (see Supplemental Materials, inspired by Snyder et al., 1996). The anagrams represent three levels of difficulty (easy, mixed, difficult). All anagrams regardless of their difficulty were solvable. Easy anagrams (most solvable, success-inducing) were developed by mixing the letters of three- or four-letter words. Difficult anagrams (the hardest to solve, failure-inducing) mixed the letters of six to eleven letter words. Mixed anagrams consisted of ten words used in easy anagrams, and in difficult anagrams. The different feedback types regarding the participants' performance were used (Snyder et al., 1996). 1) positive ("you did well, you got around 18 out of 20 correctly"), 2) neutral ("You did ok, you got around 10 out of 20 correct"), 3) negative ("you did not so good, you got around 3 out of 20 correct"), respectively for easy, mixed, and difficult anagram tasks.

Manipulation Check of Anagram Task. There were three control questions (based on Snyder et al., 1996) that investigated the participants' engagement, perceived difficulty, and subjective performance ratings of the anagram task (see Supplemental Materials).

State Hope. To measure the state hope, the same measure of the Adult State Hope Scale as in Study 1 was used (Cronbach's α = .86 for pre-test and .94 for post-test).

State Self-Esteem. To measure state self-esteem, the translated version[2] of the state self-esteem scale was used (Heatherton & Polivy, 1991). The scale consisted of 20 items (e.g., "I feel confident about my abilities right now"). All items were answered using a 5-point Likert scale (1 = *not at all*, 2 = *a little bit*, 3 = *somewhat*, 4 = *very much*, 5 = *extremely*). A mean (overall) state self-esteem score was computed for all items (Cronbach's α = .89 for pre-test and .93 for post-test).

Data Analyses

The study employed the between-subject independent variables of the performance feedback conditions, the within-subject independent variable of time (pre vs posttests) on a study sample, and the dependent variable of state hope. The Wilcoxon signed-rank test was conducted given the non-normal nature of most dependent variables.

Results

Descriptive Statistics, and Manipulation Check

Randomization was successful for age $F(3, 163) = 0.76$, $p = .519$, in Easy ($M_{age} = 27.34$, $SD = 7.82$), Mixed ($M_{age} = 26.19$, $SD = 7.10$), and Difficult ($M_{age} = 28.71$, $SD = 9.20$), and Control condition ($M_{age} = 28.02$, $SD = 7.98$), and gender ratio, $\chi^2(6, N = 168) = 2.77$, $p = .837$. Manipulation seems to work as expected, comparable with the original results of Snyder and colleagues' study (1996), participants perceived difficult anagrams as more difficult to solve than mixed and both of them were harder to solve than easy anagrams (see the details in Supplemental Materials). Additionally, the number of solved anagrams was as follows: for difficult anagrams $M = 3.94$, $Me = 3.50$, for mixed anagrams $M = 12.81$, $Me = 13.00$, and for easy anagrams $M = 18.93$, $Me = 20.00$.

Baseline state hope was strongly positively correlated with baseline of state self-esteem ($r = .66$, $p < .001$). Therefore, to check the discriminant validity of state hope, a 4x2x2 analysis of covariance was conducted. Pre-test vs post-test state hope was a within-subject factor (i.e., time) and gender, as well as conditions, were between-subject factors. Pre-test state self-esteem was a covariant to exclude its common variances from the analysis. Covariation analysis shows a significant interaction effect of condition*time $F(3, 157) = 3.67$, $p = .014$, $\eta^2 = 0,065$.

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[2] Translated by prof. Bogdan Wojciszke.

Main Effects

The type of performance feedback conditions affected the state hope when reflected pre- and posttests. There was, however, only a significant difference in the difficult anagrams performance condition. That is, participants who performed difficult anagrams had lower state hope than in the pre-test. There were differences found when considering the participant's gender in the analysis. The effect described above was found only in women, but not in men (Table 2).

Table 2

Descriptive Statistics in the Whole Sample and Both Genders for Pre-test and Post-test of State Hope With Wilcoxon Test of Differences

Condition	N	State hope pre-test			State hope post-test			Wilcoxon signed-rank test
		Mdn	*M*	*SD*	*Mdn*	*M*	*SD*	
Total								
Control	41	6.50	6.22	1.18	6.67	6.13	1.40	$Z = -1.15, p = .250$
Easy	42	6.17	6.17	1.06	6.42	6.22	1.27	$Z = 0.85, p = .398$
Mixed	43	6.33	6.22	0.89	6.33	6.09	1.08	$Z = -1.32, p = .188$
Difficult	42	6.42	6.18	0.99	6.20	5.62	1.46	$Z = -3.50, p < .001$
Women								
Control	22	6.67	6.17	1.32	6.75	6.15	1.45	$Z = -0.81, p = .420$
Easy	23	6.20	6.03	0.99	6.17	6.03	1.29	$Z = 0.06, p = .951$
Mixed	26	6.20	6.04	0.90	5.92	5.91	1.06	$Z = -1.60, p = .109$
Difficult	22	6.42	6.13	1.11	5.50	5.30	1.64	$Z = -3.63, p < .001$
Men								
Control	19	6.50	6.26	1.04	6.33	6.11	1.39	$Z = -1.06, p = .289$
Easy	19	6.50	6.33	1.14	6.50	6.45	1.24	$Z = 1.29, p = .196$
Mixed	16	6.75	6.53	0.83	6.58	6.49	0.96	$Z = 0.40, p = .687$
Difficult	19	6.50	6.28	0.86	6.33	5.97	1.19	$Z = -1.43, p = .154$

Discussion of Study 2

The present study tested whether state hope can be implemented experimentally by goal-oriented performance feedback. The study is likely to partially replicate prior results (Snyder et al., 1996, Study 2). Similarly to that previous study, when the participants performed difficult anagrams, they reported lower state hope when compared with the baseline. There were no differences in the case of easy task performance. However, the findings only seem to partially replicate the prior

experiment, because when considering gender differences again—similarly to Study 1—state hope functioned partially differently among the women and men (inconsistently with the results of Snyder et al., 1996); that is, a state hope change was only observed for women. Those women who performed difficult anagrams experienced a reduction in state hope.

GENERAL DISCUSSION

The present studies showed that state hope may change by inducing goal-oriented thinking. The results from Study 1 seem to replicate the general pattern obtained in the original experiment (Snyder et al., 1996, Study 3). People who recalled successful goal attainment reported an improvement in their state hope, whereas those who recalled unsuccessful goal attainment reported a reduction in it. However, inconsistently with the original study, gender differences moderated such effects. The induction of unsuccessful goal pursuits decreased its level, but only among women, whereas the induction of successful goal pursuits increased hope, but only among men. In Study 2, the general pattern from the original findings (Snyder et al., 1996, Study 2) was only partially replicated: people who performed difficult anagrams experienced decreased state hope. Of note, the gender factor again moderated the obtained effect. The completion of difficult anagrams only affected women, decreasing their state hope (and state self-esteem). Moreover, similarly to the original scale (Snyder et al., 1996, Study 2), the state hope measure has discriminant validity from state self-esteem.

Such gender effects could be explained, for example, by gender differences in the attributions of successes and failures (attributional theory of motivation, Weiner et al., 1972). According to the self-derogation model, women may be likely to attribute failures to stable factors (low abilities) and successes to unstable ones (chance). Such inferences can affect women's perception of future plans (Lawner, 2017) so that after experiencing failure, women could be persuaded that failure is likely to continue and, in turn, show reduced hope (there is no point in trying). After success, women could be persuaded that success is not likely to continue (i.e., they might condemn personal control over positive results) and, in turn, show a lower expectation of future success, and no improvement in hope. For men, the findings could be explained by men's attribution bias (i.e., self-enhancing tendency; Hewstone, 1989). Men could be more likely to attribute failures to unstable external factors and successes to innate, stable ones (high abilities; Lawner, 2017; Meece et al., 2006). After failure, men could be convinced that failure is not likely to continue. After

experiencing success, men could be convinced that success is likely to continue, and this would improve state hope.

However, the empirical results also do not support the widespread contention about sex differences in attributions of success and failure (Frieze et al., 1982; Hyde & Grabe, 2008; Whitley & Frieze, 1986; Wojciszke, 2013). For example, a meta-analysis by Frieze et al. (1982) findings indicated that men may attribute their both success and failures less to chance than women. The next summary that also used data from a meta-analysis (Hyde & Grabe, 2008), indicates a tendency that men would attribute success more to ability than women, whereas women may point to the causality of successes more in luck than men, but the effects were small, or may even not exists (i.e., Cohen's d at 0.07–0.13). There was also an observed tendency that men would attribute failures more to ability than women, while women may attribute failures more to luck than men (however these effects were also small—Cohen's $d < 0.16$).

It is possible that, although the gender belief system in both the United States and in Poland share similarities (Hofstede, 2001; World Economic Forum, 2021), the effect of differentiating between women and men may be more prominent in Polish culture. During the period of the loss of statehood in Poland, the heroic woman model was created. It regards the role of the Polish mother, able to cope with all difficulties, but such abilities to cope are rather related to family life circumstances, not personal ones (Boski, 2006). Because of the roots of traditional socialisation, women in Poland may suffer from a larger gap in self-confidence than men. They may take stronger personal responsibility for failures and may consider themselves to a higher degree as not deserving of personal success (Doliński, 1993; Mandal, 2004). Perhaps such historical characteristics of Polish cultural notions are responsible for such differences between this study and the original results (Snyder et al., 1996).

The results obtained in the current studies share similarities with other findings conducted in Poland (Trzmielewska et al., 2022). State hope in women who recalled failures (but not successes) was associated with improved engagement in solving a societal problem. However, only in men who recalled success (but not failures), state hope was associated with such a pattern (but the effect sizes were small). Trzmielewska and colleagues (2022) suggested that only women experience lower self-esteem when faced with some failures (this was also shown in the present work, namely Study 2). Thus, state hope could help women overcome difficulties, empowering them to engage in activities that they feel are effective, that is, they attain social goals (Atkinson, 1964, which can be in line with the Self-Affirmation Model by Steele, 1988). When considering the men's results in the study by Trzmielewska et al. (2022), the authors suggested that the experience of failure may not threaten their self-esteem (e.g., they may not recall such threatening situations). However,

when men recalled successes, they could think about events that strengthened their self (while women could not), and state hope could empower men to maintain a positive self-view through problem-solving activities.

In the present work, however, the success experience in goal pursuits was not related to the suggested pattern (i.e., men who succeed in the anagram task did not report improvements in self-esteem). Perhaps in Study 1 men recalled personal relatively difficult and successful goals (challenge goals), whereas in Study 2 the performed task was not demanding enough for them to influence their self-image. Difficult goals can increase confidence expectations more than easy goals because they, too, offer more information about one's capability to achieve (Bandura & Schunk, 1981). Moreover, goals that are too easy, may not constitute a sufficient challenge to produce hopeful thoughts (Martin-Krumm, 2015; Snyder, 2002). This phenomenon could be in line with findings showing that men may be more motivated by extrinsic factors in tasks (e.g., competition), while intrinsic motives may dominate in women (e.g., motivation to know; Kuśnierz et al., 2020). Perhaps the type of task/type of success experienced would differentiate the obtained findings. It would be worth paying more attention to the conditions in which the research is conducted, for example, naturally occurring situations may be more *ego-involving* (e.g., Miller, 1976), so that more studies should be carried out outside the experimental contexts (Whitley & Frieze, 1986).

These studies have some limitations. The first limitation is related to sampling, as both studies included a student sample, which could cause problems with the generalisation of the obtained results. Second, in Study 1, there was no second measure for state self-esteem, so the link between self-esteem and hope, observed in Study 2, cannot be confirmed on the basis of the data from this study. Moreover, the real effect sizes could be too small to detect with the actual sample size (the smallest tested sample size [$N = 23$] has inadequate power to detect a medium effect size [i.e., Cohen's $d > 0.55$] or a point biserial correlation of rho $> .50$). Moreover, the findings associated with gender differences, which did not appear in the original research by Snyder and colleagues (1996), were mostly interpreted with the reference to possible cultural differences. However, the other aspects of the sample selection might influence such differences. Samples from the current studies were rather comparable with samples from the original experiments (Snyder et al., 1996), in regard to the type of faculty that students were recruited, the samples were also equally balanced in terms of gender. However, because studies were carried out across the other years, the cohort effect cannot be ruled out. Future examinations should address this issue.

The present studies, despite all the limitations they encountered, provide new knowledge on the role of gender in the influence of the experience of success or

failure on state hope, and in turn on the problem-solving orientation. These findings are particularly interesting in light of the fact that, in men, changes in the state of hope seem to take place especially when they experience success (hope increases), and in women, especially when they experience failure (hope decreases). These results highlight the promising potential for using such knowledge practically in interventions that aim to improve hope thoughts and problem-solving orientations. To be effective and universal, in terms of audience gender, these interventions should be diverse and both a) create multiple opportunities to experience success and b) mitigate the severity of failure. Future research should include experiments in other countries and cultures to verify whether the reported gender differences are likely to be widespread (if not universal) or are specific to Polish culture.

CRediT Author Statement

WERONIKA DARIA TRZMIELEWSKA (50%): conceptualization, investigation, writing.

PAWEŁ BRZÓSKA (20%): data curation, formal analysis, visualization.

MARIUSZ ZIĘBA (30%): conceptualization, methodology, project administration, supervision.

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