# Studia Psychologica

## Theoria et Praxis

Warsaw 2023

Wydawnictwo Naukowe
Uniwersytetu Kardynała Stefana Wyszyńskiego

**CARDINAL STEFAN WYSZYŃSKI UNIVERSITY IN WARSAW**

**INSTITUTE OF PSYCHOLOGY**

# VOLUME 23 NUMBER 1 2023



EDITORIAL OF STUDIA PSYCHOLOGICA: THEORIA ET PRAXIS
Instytut Psychologii UKSW
ul. Wóycickiego 1/3 bud. 14
01-938 Warszawa
e-mail: studia_psychologica@uksw.edu.pl

TYPESETTING
Maciej Faliński



WWW http://czasopisma.uksw.edu.pl/index.php/sp
ISSN (print) 1642-2473 ISSN (online) 2449-5360

# TABLE OF CONTENTS

# I HAVE SELF-COMPASSION SO I FEEL SEXY! SEXUAL SATISFACTION AND SELF-COMPASSION EFFECTS ON SELF-ESTEEM AND BODY ESTEEM

https://doi.org/10.21697/sp.2023.23.1.01

DAGNA **KOCUR**[1], ŁUKASZ **JACH**[1], MAGDALENA **BEREK-ZAMORSKA**[1], PAULINA **KAMIŃSKA**[1]
[1] University of Silesia in Katowice, Poland

## ABSTRACT

Body esteem, self-esteem, and sexual satisfaction influence people's well-being so it is important to look for psychological factors that may contribute to their improvement. However, men and women differ in the factors that affect their body esteem, self-esteem, and sexual satisfaction. We analyzed links between men's and women's self-esteem, body esteem, sexual satisfaction, and self-compassion. The research involved 716 heterosexual participants (365 men and 351 women). All measured variables correlated positively; however, some correlations were stronger among women than among men. Mediation analyses revealed that sexual satisfaction directly affected women's body esteem but did not directly affect men's body esteem. Self-compassion and sexual satisfaction explained more variance in self-esteem and body esteem among women than among men. We explained observed differences in the contexts of the self-perception theory and the objectification theory.

**KEYWORDS**
BODY ESTEEM
SELF-ESTEEM
SELF-COMPASSION
SEXUAL SATISFACTION

* CORRESPONDENCE ADDRESS
* Dagna Kocur, Institute of Psychology, University of Silesia in Katowice, 40-126 Katowice, Grażyńskiego Street 53, Poland.
E-mail: dagna.kocur@us.edu.pl

## INTRODUCTION

Body esteem, self-esteem, and sexual satisfaction are factors affecting people's well-being (Paradise & Kernis, 2002; Olenik-Shemesh et al., 2018; Vasconcelos et al., 2022) and their low level contributes to reduced satisfaction with life (Vasconcelos et al., 2022; Pelc et al., 2023). However, body esteem, self-esteem, and sexual satisfaction are related (Castellini et al., 2017; Claudat & Warren, 2014; Taleporos & McCabe, 2002), so it is important to look for psychological factors that may contribute to their parallel improvement. On the other hand, body esteem in women and men is based on different factors (Franzoi & Shields, 1984). Moreover, women more often have lower body esteem and self-esteem than men (Prichard & Tiggemann, 2005; Harrison & Fredrickson, 2003; Lowery et al., 2005) and such discrepancies are regulated by cultural norms and standards of femininity (Brannon, 2016). Therefore, gender differences should be considered in research on the links between body esteem, self-esteem, and sexual satisfaction.

In the current study, we analyzed links between self-esteem, body esteem, sexual satisfaction, and self-compassion among men and women. Many studies have shown that body esteem and self-esteem positively influence sexual satisfaction (e.g., Castellini et al., 2017; Claudat & Warren, 2014). However, the opposite direction has also been analyzed, where sexual satisfaction translates into more positive body esteem and self-esteem (cf. Taleporos & McCabe, 2002). In addition, different factors influence men's and women's sexual satisfaction (Smith et al., 2011; Stephenson et al., 2011). The complexity of the relationships between self-esteem, body esteem, and sexual satisfaction is even higher because self-esteem and body esteem are linked with self-compassion (cf. Albertson et al., 2015), which affects their growth.

## SELF-ESTEEM AND BODY ESTEEM

Self-esteem is a relatively constant positive or negative attitude toward oneself (Rosenberg, 1965). Self-esteem is associated with adaptive skills (Pyszczynski et al., 2004), and is determined by how people are perceived by others and by how others react to them (Leary & Baumeister, 2000). Self-esteem links to body image (Olivardia et al., 2004; Paxton et al., 2006), which represents individual experiences and positive or negative feelings toward one's body (Cash & Pruzinsky, 2002). Cultural patterns also form the context in which body image develops (López-Guimerà et al., 2010).

Body esteem differs across genders (Franzoi & Shields, 1984). In men, body esteem is affected by physical attractiveness, upper body strength, and physical condition. In women, body esteem is affected by sexual attractiveness, weight concerns, and physical condition. Moreover, body esteem differs more among women than among men (Franzoi & Shields, 1984). Women experience sexual objectification and perceive themselves as objects to be looked at and judged based on their body appearance more often than men (Fredrickson & Roberts, 1997). The effects of such sexual objectification include negative body image (Prichard & Tiggemann, 2005), eating disorders (Muehlenkamp & Saris-Baglama, 2002), symptoms of depression and lower self-esteem (Harrison & Fredrickson, 2003; Lowery et al., 2005), and sexual dysfunctions (Steer & Tiggemann, 2008).

Dagna Kocur, Łukasz Jach, Magdalena Berek-Zamorska, Paulina Kamińska, I have self-compassion so I feel sexy! Sexual satisfaction and self-compassion effects on self-esteem and body esteem.
*Studia Psychologica: Theoria et Praxis*, 23(1), 5–16.
https://doi.org/10.21697/sp.2023.23.1.01

## SELF-COMPASSION

Self-compassion is an accepting attitude toward oneself, even in situations of experiencing failure or having a sense of imperfection (Neff, 2011). Self-compassion includes openness and sensitivity to one's suffering, accompanied by a feeling of caring and kindness toward oneself, adopting an understanding and nonjudgmental attitude about one's imperfections and failures, and realizing that one's experiences are part of the universal human experience (Neff, 2003a, 2003b). Compared to self-esteem, self-compassion provides greater emotional resistance and stability and is associated with a weaker focus on ego defense and self-improvement (Neff, 2011). Self-compassion also mitigates negative emotions after receiving ambiguous feedback, especially in people with low self-esteem (Leary et al., 2007).

A higher self-compassion is associated with lower body shame, lower body dissatisfaction, lower tendency to objectified body consciousness, lower body surveillance, and less negative eating attitudes (Liss & Erchull, 2015; Mosewich et al., 2011; Wollast et al., 2021). Among women, higher self-compassion predicts fewer body and weight concerns along with lower body preoccupation (Wasylkiw et al., 2012). Among men, self-compassion moderate relationship between gender role stress and the self-stigma of seeking help (Booth et al., 2019). In romantic relationships, self-compassion correlates positively with perceived quality of relationships (Jacobson et al., 2018) and predicts positive relationship behaviors (Neff & Beretvas, 2013). Higher self-compassion also helps deal with distress regarding sexual problems and is associated with higher sexual satisfaction (Ferreira et al., 2020).

## SEXUAL SATISFACTION

Sexual satisfaction is a subjective evaluation of aspects associated with one's sexual relationships (Lawrance & Byrnes, 1995). Sexual satisfaction is shaped by being in close relationships, as well as by individual traits (Sánchez-Fuentes et al., 2014). Sexual satisfaction positively correlates with satisfaction with the relationship (Henderson et al., 2009; Litzinger & Gordon, 2005), quality of communication with partner (MacNeil & Byers, 2009), mental and physical conditions (Scott et al., 2012), and well-being (Davison et al., 2009).

Sexual satisfaction also correlates positively with self-esteem (cf. Lin & Lin, 2018) and people with higher body esteem have fewer appearance-based distracting thoughts during sexual activity, which leads to greater sexual pleasure (Pujols et al., 2010). On the other hand, self-objectification decreases the quality of sexual activity and body shame and body self-consciousness during sexual activity negatively correlate with sexual satisfaction (Claudat & Warren, 2014). Reduced mindfulness, which is an aspect of self-compassion, correlates with a negative perception of one's own body in a sexual context and translates into lower sexual satisfaction (Fink et al., 2009). Moreover, among couples in which women suffer from vulvodynia (pain during intercourse), partners with higher self-compassion report higher satisfaction with relationship and lower sexual distress (Santerre-Baillargeon et al., 2018).

## CURRENT STUDY

In the current study, we wanted to analyze links between self-esteem, body esteem, sexual satisfaction, and self-compassion. We formulated six hypotheses regarding the relationships between these variables (see Table 1). We decided to check our hypotheses in the overall

Dagna Kocur, Łukasz Jach, Magdalena Berek-Zamorska, Paulina Kamińska, I have self-compassion so I feel sexy! Sexual satisfaction and self-compassion effects on self-esteem and body esteem.
*Studia Psychologica: Theoria et Praxis*, 23(1), 5–16.
https://doi.org/10.21697/sp.2023.23.1.01

sample and in groups of men and women because body appearance has different functions among sexes (Buss, 1989; Puts, 2010). Such approach is also justified from the perspective of objectification theory (Fredrickson & Roberts, 1997), which states that women, more than men, are socialized to internalize the observer's perspective as their primary view of their physical selves and monitor the outward appearance of their bodies which results in increased feelings of shame, poor body image, and self-loathing (Lowery et al., 2005; Prichard & Tiggemann, 2005).

We also conducted mediation analyses including sexual satisfaction and self-compassion as exogenous variables, self-esteem as a mediator, and body esteem as an outcome. We based our model on the following assumption that self-compassion is a general attitude toward oneself (Neff, 2003a, 2011); thus, it may affect self-esteem and body esteem. Subsequently, sexual satisfaction is perceived as a desired aspect of people's life (Sánchez-Fuentes et al., 2014) and is related to physical functions of the body (Scott et al., 2012); thus, it may affect self-esteem and body esteem. Moreover, self-esteem is a general, relatively constant trait (Rosenberg, 1965); thus, it may affect many specific aspects of people's self-evaluation, such as body esteem.

**Table 1. Hypotheses regarding links between self-esteem, body esteem, sexual satisfaction, and self-compassion**

| Hypothesis | Background |
|---|---|
| (H1) Sexual satisfaction would positively correlate with body esteem. | If people had a satisfactory sexual life, they might judge their body not so much in terms of what it looks like, but rather in terms of how much pleasure it gives them and their sexual partners. |
| (H2) Self-esteem would positively correlate with body esteem. | People with higher self-esteem may tend to make more positive judgments about their bodies. |
| (H3) Higher self-compassion would correlate with higher sexual satisfaction (e.g., by accepting the possibility that there are better and worse moments in one's sexual life). | Self-compassion manifests through a greater understanding and acceptance of one's own's imperfections, weaknesses, and failures. |
| (H4) Self-compassion would positively correlate with self-esteem (e.g., through a more accepting attitude toward the actual self). | |
| (H5) Self-compassion would positively correlate with body esteem (e.g., because higher self-compassion may lead to a greater acceptance of the body) | |
| (H6) Self-esteem and body esteem would display a higher correlation among women than among men | Body appearance has different functions among sexes. Moreover, women, more than men, are socialized to internalize the observer's perspective as their primary view of their physical selves and monitor the outward appearance of their bodies which results in increased feelings of shame, poor body image, and self-loathing. |

## METHOD

### PARTICIPANTS AND PROCEDURE

We conducted our study on a Polish sample of heterosexual men and women collected with snowball sampling method. The participants provided answers by paper and pencil or by an online survey module. The participants did not provide any information that would allow for the identification of individual participants or link specific responses to a specific person. The respondents were informed about the purpose of the study and participated in it voluntarily and without remuneration.

The study involved 716 heterosexual participants, including 365 men and 351 women. The mean age was 27.53 years ($SD$ = 9.38 years). Men and women did not differ in terms of age ($t$ = -0.64, $p$ = .53, $d$ = .05). Sample size was satisfactory concerning the a priori likelihood of the effects posited in the hypotheses being revealed, here with a threshold value of $p$

Dagna Kocur, Łukasz Jach, Magdalena Berek-Zamorska, Paulina Kamińska, I have self-compassion so I feel sexy! Sexual satisfaction and self-compassion effects on self-esteem and body esteem.
*Studia Psychologica: Theoria et Praxis*, 23(1), 5–16.
https://doi.org/10.21697/sp.2023.23.1.01

of .05 in the two-tailed tests and power of .80 of the tests used. For the parameters adopted, significant correlation coefficients ≥ .20 should be found in a sample of 191 respondents, and weak intergroup differences ($d$ = .20) in a sample of 310 respondents. The size of the study sample exceeded both the threshold values mentioned above.

### MEASURES

We measured self-esteem using the Self-Esteem Scale (SES; Rosenberg, 1989; Polish adaptation by Łaguna et al., 2007). The participants were asked how much they agreed (1 = *strongly disagree*; 4 = *strongly agree)* with 10 items corresponding to their general evaluations of themselves. Cronbach's α reliability coefficients were as follows: overall sample α = .87, men α = .87, and women α = .88).

To measure body esteem, we used the Body Esteem Scale (BES; Franzoi & Shields, 1984; Polish adaptation by Lipowska & Lipowski, 2013), which consists of 35 items regarding an individual's perceptions of their body. The respondents were asked to identify their feelings about specific parts of their body using a 5-point Likert scale (1 = *I have a strong negative feeling*; 5 = *I have a strong positive feeling*. The tool's reliability was as follows: overall sample α = .94, men α = .94, and women α = .94.

We measured self-compassion using the Polish translation of the Short Form of Self-Compassion Scale (SCS-SF; Raes et al., 2011), which consists of 12 statements concerning the components of self-compassion: self-kindness, common humanity, and mindfulness. The respondents gave their answers on a 5-point scale (1 = *Almost never*; 5 = *Almost always*). The reliability of the tool was as follows: overall sample α = .81; men α = .77; women α = .84.

To measure sexual satisfaction, we used the Sexual Satisfaction Scale by Davies et al. (2006; Polish translation by Szumski & Małecka, 2009); this scale consists of 21 statements, on which the respondents answered using a 5-point Likert scale (1 = *I strongly disagree*; 5 = *I strongly agree*). The reliability of the tool was satisfactory: overall sample α = .87; men α = .87; women α = .87.

We averaged the scores of all measures used. We performed statistical analyses using JAMOVI software (version 2.3.2).

## RESULTS

Descriptive statistics and pairwise comparisons among men and women are presented in Table 2. Men displayed higher self-esteem ($p$ < .05), body esteem ($p$ < .001), and self-compassion ($p$ < .001) than women. However, sexual satisfaction did not differ across genders.

**Table 2. Measured variables – Descriptive statistics and gender differences**

| Variable | Overall sample | | Men | | Women | | *t* | *d* |
|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* | | |
| Sexual satisfaction | 3.36 | 0.63 | 3.40 | 0.63 | 3.33 | 0.63 | 1.54 | .12 |
| Body esteem | 3.64 | 0.60 | 3.74 | 0.56 | 3.54 | 0.61 | 4.58** | .34 |
| Self-esteem | 3.03 | 0.54 | 3.07 | 0.55 | 2.98 | 0.53 | 2.32* | .17 |
| Self-compassion | 3.02 | 0.68 | 3.13 | 0.64 | 2.90 | 0.70 | 4.68** | .35 |

*Note:* $^{*}p$ < .05, $^{**}p$ < .001

Dagna Kocur, Łukasz Jach, Magdalena Berek-Zamorska, Paulina Kamińska, I have self-compassion so I feel sexy! Sexual satisfaction and self-compassion effects on self-esteem and body esteem.
*Studia Psychologica: Theoria et Praxis*, 23(1), 5–16.
https://doi.org/10.21697/sp.2023.23.1.01

Correlation analysis (see Table 3) confirmed the positive relationship between sexual satisfaction and body esteem ($p < .001$), as posited in Hypothesis 1. However, this relationship was stronger in women than in men ($p < .05$). Consistent with Hypothesis 2, participants revealed positive links between self-esteem and body esteem ($p < .001$). We also observed positive relationship between sexual satisfaction and self-compassion ($p < .01$), as posited in Hypothesis 3. Consistent with Hypothesis 4, self-compassion linked with self-esteem positively ($p < .001$); however, this relationship was stronger in women than in men ($p < .05$). We also observed positive correlations between self-compassion and body esteem ($p < .001$), as posited in Hypothesis 5. Hypothesis 6 was also accurate since we observed higher correlation between self-esteem and body esteem among women than among men ($p < .01$).

**Table 3. Correlation coefficients in the overall sample and groups of men and women**

| Overall sample | Sexual satisfaction | Body esteem | Self-esteem |
|---|---|---|---|
| Body esteem | .26*** | | |
| Self-esteem | .26*** | .50*** | |
| Self-compassion | .19*** | .45*** | .57*** |
| Men | Sexual satisfaction | Body esteem | Self-esteem |
| Body esteem | .16** | | |
| Self-esteem | .21*** | .42*** | |
| Self-compassion | .14** | .38*** | .51*** |
| Women | Sexual satisfaction | Body esteem | Self-esteem |
| Body esteem | .34*** | | |
| Self-esteem | .31*** | .57*** | |
| Self-compassion | .22*** | .47*** | .62*** |
| Difference between men and women (Fischer *z*, two-tailed) | Sexual satisfaction | Body esteem | Self-esteem |
| Body esteem | -2.57* | | |
| Self-esteem | -1.43 | -2.66** | |
| Self-compassion | -1.10 | -1.47 | -2.16* |

*Note:* * $p < .05$; ** $p < .01$; *** $p < .001$

We carried out mediation analyses separately for men and women (see Figure 1). We calculated 95% confidence intervals using the bootstrapping method with 10,000 samples (see Appendix). Among women, all effects were significant. However, among men, direct effect of sexual satisfaction on body esteem turned out to be insignificant. The model explained 37.21% of women's body esteem and 42.08% of women's self-esteem, as well as 22.13% of men's body esteem and 29.91% of men's self-esteem.

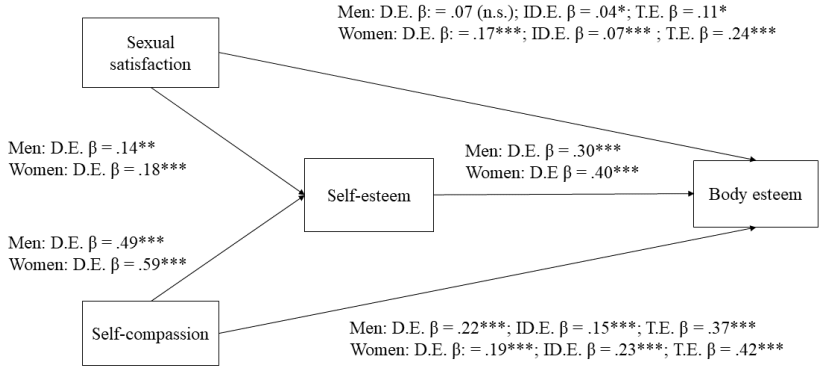


**Figure 1. Regression model of body esteem with sexual satisfaction and self-compassion as predictors and self-esteem as a mediator**

*Note:* * $p < .05$, ** $p < .01$, *** $p < .001$; D.E. = direct effect, ID.E. = indirect effect, T.E. = total effect.

## DISCUSSION

Our results showed that sexual satisfaction, self-compassion, self-esteem, and body esteem were positively correlated. However, the correlations between sexual satisfaction and body esteem, self-esteem and body esteem, and self-compassion and self-esteem were stronger among women than among men. Mediation analyses also revealed that although sexual satisfaction and self-compassion had significant total effects on self-esteem and body esteem, these effects were stronger among women than among men. Moreover, the model explained more variance in body esteem and self-esteem among women than among men.

Our results suggest that people with higher sexual satisfaction may treat their experiences as a context that elevates their self-perception and use judgments concerning the sexual sphere when referring to other aspects related to self-satisfaction These results refer to the self-perception theory (Bem, 1972) and the evaluative subjective well-being model (Schwartz & Strack, 1999). According to the self-perception theory, people form beliefs about themselves based on observations of their own activities (e.g., sexual activity). According to the evaluative subjective well-being model, people rate their overall satisfaction in the context of their specific experiences (e.g., related to sexual aspects). Other research has shown that sexual life and sexual satisfaction influence higher self-esteem among older people (Choi et al., 2011). Our results also are consistent with the results showing that sexual satisfaction is a positive predictor of self-esteem among people with physical disabilities (Taleporos & McCabe, 2002) and correlate with higher self-esteem among patients with relapse-remitting multiple sclerosis (Furmańska et al., 2017). Therefore, our results support more open communication and higher fulfillment of people's sex-related needs, which may contribute to an improvement in self-esteem and satisfaction with one's appearance.

The positive effects of self-compassion on self-esteem and body esteem suggest that the development of skills that allow people to distance themselves from their weaknesses and failures can provide a starting point for increasing their level of self-esteem and satisfaction with their bodies. A positive correlation between self-compassion and sexual satisfaction was consistent with previous studies (Jacobson et al., 2018; Neff & Beretvas, 2013). Moreover, previous studies have shown that a higher ability to develop such component of self-compassion as mindfulness is important for a better quality of sexual life, especially among women (Fink et al., 2009; Leavitt et al., 2019).

Observed differences between men and women may be explained by objectification theory (Fredrickson & Roberts, 1997). Cultural norms force women more than men to be attractive (Parker et al., 2017) and to show satisfaction during sex (Chadwick & van Anders, 2017). Moreover, women's sexual dissatisfaction and other sexual problems are attributed to their internal characteristics (Angel, 2010). Therefore, a low level of sexual satisfaction can lower women's self-esteem and body esteem. On the other hand, a high self-compassion may protect women from the influence of cultural demands and patterns related to sex and body. Compared with women, men judge themselves less often in the context of their appearance (cf. Furnham et al., 2002). Therefore, men's self-esteem may be less related to their body esteem. From a different perspective, men perceive successful and satisfactory sexual activity as an indicator of self-esteem; for example, men with erectile dysfunction treated with Sildenafil experienced a significant improvement in self-esteem, self-confidence, and satisfaction with their close relationships (O'Leary et al., 2006).

Our study revealed gender as an important factor that affects relationships between self-compassion, self-esteem, body esteem, and sexual satisfaction among men and women. These gender differences may be associated with reduced well-being among women, which may result in difficulties such as eating disorders (Harrison & Fredrickson, 2003), affective disorders (Gao et al, 2022), and self-perception disorders (Lowery et al., 2005). Therefore,

Dagna Kocur, Łukasz Jach, Magdalena Berek-Zamorska, Paulina Kamińska, I have self-compassion so I feel sexy! Sexual satisfaction and self-compassion effects on self-esteem and body esteem.
*Studia Psychologica: Theoria et Praxis*, 23(1), 5–16.
https://doi.org/10.21697/sp.2023.23.1.01

our results support psychoeducational and psychotherapeutic interventions that would develop self-compassion, self-esteem, and body-esteem, taking into account the need to adapt these interventions to the gender of their participants (Alleva et al., 2015).

## LIMITATION AND CONCLUSION

Our study is not without limitations. Firstly, the measurement of body esteem was not accompanied by an investigation of other body-related aspects, e.g., weight normativity and perceived body attractiveness. Secondly, we measured only general level of self-esteem; however, it would be useful to include a more specific indicator of self-esteem related to sexual aspects, e.g. sexual self-esteem (Kong et al., 2023). Thirdly, although our mediation model described the relationships between measured variables, data collected in cross-sectional studies do not allow for cause-and-effect conclusions (Maxwell & Cole, 2007). Future studies should verify our results using an experimental or longitudinal methodology. Fourthly, we focused on Polish heterosexual people, and we did not include participants' relationship status in our analyses. Future research should include samples of nonheterosexual people and people with different relationship statuses as well as people from other cultural contexts to check whether the relationships between variables are universal or rather culture-dependent. Finally, in our model, we included sexual satisfaction as a predictor of self-esteem and body esteem. Although such an approach appears in psychological research (Taleporos & McCabe, 2002), esteem aspects are often mentioned as affecting sexual satisfaction (e.g., Castellini et al., 2017; Claudat & Warren, 2014). We do not postulate one-way relationships between sexual satisfaction and self-esteem and body esteem. However, considering possible impact of sexual satisfaction on self-esteem and body esteem is justified in the context of theories indicating the importance of individual experiences in shaping general beliefs about oneself (Bem, 1972, Schwarz & Strack, 1999).

We conducted a study of correlations and mediation effects between sexual satisfaction, self-compassion, self-esteem, and body esteem among men and women. Our results suggest that people may judge their self-esteem and body esteem in the context of self-compassion and the quality of their sexual lives. However, links between mentioned variables differ across genders. Moreover, self-compassion and sexual satisfaction explained more variance in self-esteem and body esteem among women than among men.

# SUPPLEMENTARY MATERIALS

**Supplementary Table 1. Regression coefficients in the mediation model**

| Effect | Men | | | Women | | |
|---|---|---|---|---|---|---|
| | *b (SE)* | 95% *C.I.* | β | *b (SE)* | 95% *C.I.* | β |
| Total | | | | | | |
| *SS* ➔ *BES* | .10 (.04) | .01–.18 | .11* | .24 (.05) | .14–.33 | .24*** |
| *SC* ➔ *BES* | .32 (.04) | .24–.41 | .37*** | .37 (.04) | .29–.49 | .42*** |
| Direct | | | | | | |
| *SS* ➔ *BES* | .06 (.05) | -.03–.15 | .07 | .17 (.05) | .08–.26 | .17*** |
| *SC* ➔ *BES* | .19 (.05) | .08–.29 | .22*** | .16 (.05) | .06–.27 | .19*** |
| *SS* ➔ *SES* | .12 (.04) | .04–.20 | .14** | .15 (.04) | .08–.22 | .18*** |
| *SC* ➔ *SES* | .43 (.04) | .36–.50 | .49*** | .44 (.03) | .38–.50 | .59*** |
| *SES* ➔ *BES* | .30 (07) | .17–.45 | .30*** | .46 (.07) | .32–.59 | .40*** |
| Indirect | | | | | | |
| *SS* ➔ *SES* ➔ *BES* | .04 (.02) | .01–.07 | .04* | .07 (.02) | .03–.11 | .07*** |
| *SC* ➔ *SES* ➔ *BES* | .13 (.03) | .07–.20 | .15*** | .20 (.04) | .13–.27 | .23*** |

*Note:* * $p < .050$, ** $p < .01$, *** $p < .001$; *SS* = sexual satisfaction, *SC* = self-compassion, *SES* = self-esteem, *BES* = body esteem

# REFERENCES


Albertson, E., Neff, D.K., & Dill-Shackleford, K. (2015). Self-compassion and body dissatisfaction in women: a randomized controlled trial of a brief meditation intervention. *Mindfulness, 6*, 444–454.

Alleva, J.M., Martijn, C., Van Breukelen, G.J., Jansen, A., & Karos, K. (2015). Expand Your Horizon: A programme that improves body image and reduces self-objectification by training women to focus on body functionality. *Body Image, 15*, 81-89.

Angel, K. (2010). The history of 'Female Sexual Dysfunction' as a mental disorder in the 20th century. *Current Opinion in Psychiatry, 23*, 536–541.

Bem, D.J. (1972). Self-perception theory. *Advances in Experimental Social Psychology, 6*, 1–62.

Booth, N.R., McDermott, R.C., Cheng, H.L., & Borgogna, N.C. (2019). Masculine gender role stress and self-stigma of seeking help: The moderating roles of self-compassion and self-coldness. *Journal of Counseling Psychology, 6*, 755–762.

Brannon, L. (2016). *Gender: psychological perspectives*. Taylor & Francis.

Buss, D.M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12*, 1–14.

Cash, T.F., & Pruzinsky, T. (2002). *Body image: A handbook of theory, research, and clinical practice*. New York: Guilford Press.

Castellini, G., Sauro, C.L., Ricca, V., & Rellini, A.H. (2017). Body esteem as a common factor of a tendency toward binge eating and sexual dissatisfaction among women: The role of dissociation and stress response during sex. *The Journal of Sexual Medicine, 14*, 1036–1045.

Chadwick, S.B., & van Anders, S.M. (2017). Do women's orgasms function as a masculinity achievement for men?. *The Journal of Sex Research, 54*, 1141–1152.

Choi, K.B., Jang, S.H., Lee, M.Y., & Kim, K.H. (2011). Sexual life and self-esteem in married elderly. *Archives of Gerontology and Geriatrics, 53,* e17–e20.

Claudat, K., & Warren, C.S. (2014). Self-objectification, body self-consciousness during sexual activities, and sexual satisfaction in college women. *Body Image, 11*, 509–515.

Davison, S.L., Bell, R.J., LaChina, M., Holden, S.L., & Davis, S.R. (2009). The Relationship between self-reported sexual satisfaction and general well-being in women. *Journal of Sexual Medicine, 6*, 2690–2697.

Ferreira, J.S., Rigby, R.A., & Cobb, R.J. (2020). Self-compassion moderates associations between distress about sexual problems and sexual satisfaction in a daily diary study of married couples. *The Canadian Journal of Human Sexuality, 29*, 182–196.

Fink, S., Goran, K.A., O'Hea, E.L., & Sweeney, A.C. (2009). Sexual body esteem and mindfulness in college women. *Body Image, 6*, 326–329.

Franzoi, S.L., & Shields, S.A. (1984). The Body Esteem Scale: Multidimensional structure and sex differences in a college population. *Journal of Personality Assessment*, *48*, 173–178.

Fredrickson, B.L., & Roberts, T. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21*, 173–206.

Furmańska, J., Kozlarska, D., Szcześniak, M., Rzepa, T., & Nowacki, P. (2017). Sexual satisfaction, self-esteem and acceptance of illness among relapse-remitting multiple sclerosis patients. *Advances in Psychiatry & Neurology*, *26*, 236–245.

Furnham, A., Badmin, N., & Sneade, I. (2002). Body image dissatisfaction: Gender differences in eating attitudes, self-esteem, and reasons for exercise. *The Journal of Psychology, 136*, 581–596.

Gao, W., Luo, Y., Cao, X., & Liu, X. (2022). Gender differences in the relationship between self-esteem and depression among college students: a cross-lagged study from China. *Journal of Research in Personality, 97*, 104202.

Harrison, K., & Fredrickson, B.L. (2003). Women's sport media, self-objectification, and mental health in black and white adolescent females. *Journal of Communication, 53*, 216–232.

Henderson, A.W., Lehavot, K., & Simoni, J.M. (2009). Ecological models of sexual satisfaction among lesbian/bisexual and heterosexual women. *Archives of Sexual Behavior, 38*, 50–65.

Jacobson, E.H., Wilson, K.G., Kurz, A.S., & Kellum, K.K. (2018). Examining self-compassion in romantic relationships. *Journal of Contextual Behavioral Science, 8*, 69–73.

Kong, L.V., Ting, R.S.K., Chung, K.R., Hidayat, W., Ooi, W.L., & Goh, P.H. (2023). Bidimensional self-esteem and sexual functioning among young adults: A systematic review. *Current Psychology*, advanced online publication, 1–15.

Lawrance, K., & Byers, E.S. (1995). Sexual satisfaction in long-term heterosexual relationships: The interpersonal exchange model of sexual satisfaction. *Personal Relationships, 2*, 267–285.

Leary, M., & Baumaister, R. (2000). The nature and function of self-esteem: Sociometer theory. *Advances in Experimental Social Psychology 32*, 1–62.

Leary, M.R., Tate, E.B., Adams, C.E., & Allen, A.B. (2007). Self-compassion and reactions to unpleasant selfrelevant events: the implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*, 887–904.

Leavitt, C.E., Lefkowitz, E.S., & Waterman, E.A. (2019). The role of sexual mindfulness in sexual wellbeing, relational wellbeing, and self-esteem. *Journal of Sex & Marital Therapy, 45*, 497–509.

Lin, H.C., & Lin, Y.C. (2018). The study of body image, self-esteem and sexual satisfaction of college students in southern Taiwan. *Universal Journal of Educational Research, 6*, 647–652.

Lipowska, M., & Lipowski, M. (2013). Polish normalization of the Body Esteem Scale. *Health Psychology Report, 1*, 72–81.

Liss, M., & Erchull, M.J. (2015). Not hating what you see: Self-compassion may protect against negative mental health variables connected to self-objectification in college women. *Body Image, 14,* 5–12.

Litzinger, S., & Gordon, K.C. (2005). Exploring relationships among communication, sexual satisfaction, and marital satisfaction. *Journal of Sex & Marital Therapy, 31*, 409–424.

Lowery, S.E., Kurpius, S.E.R., Befort, C., Blanks, E.H., Sollenberger, S., & Nicpon, M.F. (2005). Body image, self-esteem, and health-related behaviors among male and female first year college students. *Journal of College Student Development, 46*, 612–623.

López-Guimerà, G., Levine, M.P., Sánchez-Carracedo, D., & Fauquet, J. (2010). Influence of mass media on body image and eating disordered attitudes and behaviors in females: A review of effects and processes. *Media Psychology, 13*, 387–416.

Łaguna, M., Lachowicz-Tabaczek, K., & Dzwonkowska, I. (2007). Skala samooceny SES Morrisa Rosenberga – polska adaptacja metody [The Rosenberg Self-Esteem Scale: Polish adaptation of the scale]. *Psychologia Społeczna, 2*, 164–176.

MacNeil, S., & Byers, E.S. (2009). Role of sexual self-disclosure in the sexual satisfaction of long-term heterosexual couples. *Journal of Sex Research, 46*, 3–14.

Maxwell, S.E., & Cole, D.A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, *12*, 23–44.

Mosewich, A.D., Kowalski, K.C., Sabiston, C.M., Whitney, A.S., & Tracy, L.J. (2011). Self-compassion: a potential resource for young women athletes. *Journal of Sport and Exercise Psychology, 33*, 103–123.

Muehlenkamp, J.J., & Saris-Baglama, R.N. (2002). Self-objectification and its psychological outcomes for college women. *Psychology of Women Quarterly, 26*, 371–379.

Neff, K.D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223–250.

Neff, K.D. (2003b). Self-compassion: an alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2*, 85–101.

Neff, K.D. (2011). Self-compassion, self-esteem, and well-being. *Social and Personality Psychology Compass, 5*, 1–12.

Neff, K.D., & Beretvas, N. (2013). The role of self-compassion in romantic relationships. *Self and Identity, 12*, 78–98.

O'Leary, M.P., Althof, S.E., Cappelleri, J.C., Crowley, A., Sherman, N., Duttagupta, S., & The United States Self-Esteem and Relationship Questionnaire Study Group. (2006). Self-esteem, confidence and relationship satisfaction of men with erectile dysfunction treated with sildenafil citrate: a multicenter, randomized, parallel group, double-blind, placebo controlled study in the United States. *The Journal of Urology, 175*, 1058–1062.

Olenik-Shemesh, D., Heiman, T., & Keshet, N.S. (2018). The role of career aspiration, self-esteem, body esteem, and gender in predicting sense of well-being among emerging adults. *The Journal of Genetic Psychology, 179*, 343–356.

Olivardia, R., Pope Jr, H.G., Borowiecki III, J.J., & Cohane, G.H. (2004). Biceps and body image: the relationship between muscularity and self-esteem, depression, and eating disorder symptoms. *Psychology of Men & Masculinity, 5*, 112–120.

Paxton, S. ., Neumark-Sztainer, D., Hannan, P.J., & Eisenberg, M.E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child and Adolescent Psychology, 35*, 539–549.

Paradise, A.W., & Kernis, M.H. (2002). Self-esteem and psychological well-being: Implications of fragile self-esteem. *Journal of Social and Clinical Psychology, 21*, 345–361.

Parker, K., Horowitz, J.M., & Stepler, R. (2017). On gender differences, no consensus on nature vs. nurture. *Pew Research Center's Social & Demographic Trends Project* (www.rewresearch.org).

Pelc, A., Winiarska, M., Polak-Szczybyło, E., Godula, J., & Stępień, A.E. (2023). Low Self-Esteem and Life Satisfaction as a Significant Risk Factor for Eating Disorders among Adolescents. *Nutrients, 15*, 1603.

Prichard, I., & Tiggemann, M. (2005). Objectification in fitness centers: Self-objectification, body dissatisfaction, and disordered eating in aerobic instructors and aerobic participants. *Sex Roles, 53*, 19–28.

Pujols, Y., Meston, C., & Seal, B. (2010). The association between sexual satisfaction and body image in women. *The Journal of Sexual Medicine, 7,* 905–916.

Puts, D.A. (2010). Beauty and the beast: mechanisms of sexual selection in humans. *Evolution and Human Behavior*, *31*, 157–175.

Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Shimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychology Bulletin, 130*, 435–468.

Raes, F., Pommier, E., Neff, K.D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology & Psychotherapy*, *18*, 250–255.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rosenberg, M. (1989). *Society and adolescent Self-Image*. Revised edition. Middletown, CT: Wesleyan University Press.

Santerre-Baillargeon, M., Rosen, N.O., Steben, M., Pâquet, M., Macabena Perez, R., & Bergeron, S. (2018). Does self-compassion benefit couples coping with vulvodynia? Associations with psychological, sexual, and relationship adjustment. *The Clinical Journal of Pain, 34*, 629–637.

Sánchez-Fuentes, M., Santos-Iglesias, P., & Sierra, J.C. (2014). A systematic review of sexual satisfaction. *International Journal of Clinical and Health Psychology, 14,* 67–75.

Scott, V.C., Sandberg, J.G., Harper, J.M., & Miller, R.B. (2012). The impact of depressive symptoms and health on sexual satisfaction for older couples: implications for clinicians. *Contemporary Family Therapy, 34*, 376–390.

Smith, A., Lyons, A., Ferris, J., Richters, J., Pitts, M., Shelley, J., & Simpson, J.M. (2011). Sexual and relationship satisfaction among heterosexual men and women: The importance of desired frequency of sex. *Journal of Sex & Marital Therapy, 37*, 104–115.

Steer, A., & Tiggemann, M. (2008). The role of self-objectification in women's sexual functioning. *Journal of Social and Clinical Psychology, 27*, 205–225.

Stephenson, K.R., Ahrold, T.K., & Meston, C.M. (2011). The association between sexual motives and sexual satisfaction: Gender differences and categorical comparisons. A*rchives of Sexual Behavior, 40*, 607–618.

Szumski, F., Małecka, M. (2009). *Skala Satysfakcji Seksualnej D. Davies* [D. Davies Sexual Satisfaction Scale; Unpublished typescript]. Poznań: Instytut Psychologii UAM.

Taleporos, G., & McCabe, M.P. (2002). The impact of sexual esteem, body esteem, and sexual satisfaction on psychological well-being in people with physical disability. *Sexuality and Disability, 20*, 177–183.

Vasconcelos, P., Paúl, C., Serruya, S.J., Gómez Ponce de León, R., & Nobre, P. (2022). A systematic review of sexual health and subjective well-being in older age groups. *Pan American Journal of Public Health, 46*, e179.

Wasylkiw, L.A., Mackinnon, A., & MacLellan, M. (2012). Exploring the link between self-compassion and body image in university women. *Body Image, 9*, 236–245.

Wollast, R., Riemer, A.R., Gervais, S.J., Grigoryan, L., Bernard, P., & Klein, O. (2021). How cultural orientation and self-compassion shape objectified body consciousness for women from America, Belgium, Russia, and Thailand. *Self and Identity, 20*, 930–950.

# GENERAL SELF-EFFICACY ASSOCIATIONS WITH PERSONALITY AND MOTIVATION: PSYCHOMETRIC PROPERTIES AND MEASUREMENT INVARIANCE OF THE POLISH NEW GENERAL SELF-EFFICACY SCALE

https://doi.org/10.21697/sp.2023.23.1.02

LIDIA **BARAN**[1], MACIEJ **JANOWSKI**[1]
[1] Institute of Psychology, University of Silesia in Katowice, Poland

**KEYWORDS**
GENERAL SELF-EFFICACY
PERSONALITY
MOTIVATION
MEASUREMENT INVARIANCE

## ABSTRACT

This study aimed to determine the validity and reliability of the Polish version of the *New General Self-Efficacy Scale* (NGSE). In four different samples ($N$ = 1,837), adult respondents completed the Polish version of NGSE (NGSEpl) in combination with questionnaires assessing personality, motivation, and behavioral tendencies. Confirmatory factor analysis demonstrated a good fit for the one-factor structure. Cronbach's alpha was above .87 in all samples, and the stability of the scale was .68. Measurement invariance of NGSEpl calculated for different age groups confirmed that the scale measures the same construct in both samples. NGSEpl scores were positively related to the frequency of active coping strategies, mastery-goal orientation, and Big Five model traits and negatively to passive coping strategies. Results supported the reliability, stability, and validity of the NGSEpl.

* CORRESPONDENCE ADDRESS Correspondence concerning this article should be addressed to Lidia Baran, Institute of Psychology, University of Silesia in Katowice, ul. Grażyńskiego 53, 40-126 Katowice, Poland

## INTRODUCTION

With regard to the factors shaping human action, Bandura (1977, 1992) described beliefs in one's capabilities to exercise control over events and successfully execute the behavior. Such beliefs form perceived self-efficacy, influencing people's thoughts, behaviors, and emotional experiences (Bandura, 1997). Self-efficacy has been studied in organizational research (e.g., Chen et al., 2001; Yao et al., 2018), health (e.g., Blank et al., 2016; Bonsaksen et al., 2018), and education (e.g., Ahmad & Safaria, 2013; Dehyadegary et al., 2014; Sharma & Nasa, 2016), however, the need to conduct research in this area using the valid and reliable methods still exists.

Perceived self-efficacy can be analyzed as a trait-like or a state-like construct. The former reflects beliefs about the ability to act effectively across a wide range of different situations (general self-efficacy; GSE), while the latter indicates beliefs about the individual ability to perform in specific tasks or contexts (specific self-efficacy or task self-efficacy; SSE). GSE and SSE are based on the same four sources of information: past performance, vicarious experience, verbal information from others, and physiological arousal (Chen et al., 2001; Eden, 2012; Scholz et al., 2002).

General self-efficacy comprises individual experiences of success and failure (Sherer et al., 1982). Shelton (1990) argues that people with high GSE develop a mastery-oriented attitude toward challenges, which means they rather take credit for successes than blame themselves for the failures in their lives. In contrast, people with low GSE more often blame themselves for failures and rarely take credit for the successes, which leads to a helpless attitude toward challenges. GSE explains the variance of the behavior, especially in ambiguous or new situations (Tipton & Worthington, 1984), and is more useful in the analysis of simultaneously performed actions (Luszczynska et al., 2004). Previous studies show that GSE predicts, among others: adjustment to social changes in life (Jerusalem & Mittag, 1995) and levels of anxiety and depression (Bonetti et al., 2001).

Specific self-efficacy contains experiences of success and failure in particular domains (Sherer et al., 1982) and accounts for the variance of behavior in well-known, unambiguous contexts (Tipton & Worthington, 1984). Meta-analyses of SSE studies indicate the usefulness of this construct as a predictor of work-related performance (Stajkovic & Luthans, 1998), academic performance, and persistence (Multon et al., 1991), and also as a predictor of changes in intention towards health behavior and health behavior itself (Sheeran et al., 2016).

Regarding relations between GSE and SSE, global beliefs about the ability to perform effectively can influence expected success in a specific domain (Chen et al., 2001). Research shows that people with high GSE feel they can execute their behaviors successfully across various tasks and situations (Sherer et al., 1982). Additionally, in the model proposed by Shelton (1990), SSE affected by global self-efficacy determines the initiation of the particular behavior, the amount of effort dedicated to performing it, and persistence in acting when confronted with obstacles. Observable positive or negative outcomes of that behavior contribute to self-attribution of success or failures in the particular task (SSE) and all self-attributed successes and failures (GSE). Thus, the results of task-specific experience influence both SSE and GSE. It is also possible for GSE to moderate the relation between external influences and SSE – people with high GSE tend to have SSE more resistant to challenging situations and negative feedback, while for people with low GSE, adverse circumstances can pose a threat to their SSE (Eden, 2012; Schwarzer & Hallum, 2008).

Referring to GSE as a relatively stable trait has been, however, criticized. Bandura (1997, p. 42) suggests that GSE constitutes "a decontextualized conglomerate" and cannot predict individual performance in a given task. In response, Chen et al. (2001) state that GSE

Lidia Baran, Maciej Janowski, General Self-Efficacy Associations with Personality and Motivation: Psychometric Properties and Measurement Invariance of the Polish New General Self-Efficacy Scale. *Studia Psychologica: Theoria et Praxis*, 23(1), 17–32.
https://doi.org/10.21697/sp.2023.23.1.02

should be treated as an addition to models of SES and that the utility of GSE in predicting behaviors is limited to general performance, proven in research (Eden & Aviram, 1993; Eden & Granat-Flomin, 2000). Further critique involved questioning whether GSE constitutes a construct different from self-esteem (Stanley & Murphy, 1997), which is also connected to the evaluation of failures and successes important to the self. Studies addressing this matter confirm the distinctive character of self-esteem and global self-efficacy – the former relates highly to affective variables and the latter to motivational variables (Chen et al., 2001; Chen et al., 2004). Actions taken by individuals depend on what they want to achieve (e.g., goal) and how confident they are that the goal is achievable (self-efficacy; Latham & Locke, 1991). Bandura (1997) suggested that people need more than just high self-esteem to act to achieve their goals. Self-esteem undoubtedly promotes perseverance but is not related to individual abilities or potential, thus not necessarily affects the pursuit of achievements. Therefore, self-efficacy allows initiating action, while self-esteem helps to maintain the action already taken. Some doubts were also raised about the reliability of GSE questionnaires; however, these reservations do not seem justified when juxtaposed with previous empirical analyses (e.g., Scherbaum et al., 2006).

## MEASURES OF GLOBAL SELF-EFFICACY

The first scale measuring GSE was the *General Self-Efficacy Scale* (GSES), developed by Sherer et al. (1982) to provide a valuable tool for researchers and therapists. It consists of 17 items measuring self-efficacy without reference to a particular behavior domain. Exemplary statements include "I give up easily" and "Failure just makes me try harder". In the validation study, the scale obtained an internal consistency of .86 and the best fit of the one-factor solution explaining 26.5% of the variance. Research showed that scores obtained in GSES predicted residualized depression levels (Mehler et al., 2018), pulmonary rehabilitation response (Blackstock et al., 2018), and well-being (Soysa & Wilcomb, 2015). The reliability of the scale remains consistently high in analysis (Calogero et al., 2017; Chen et al., 2001); however, its factor structure differs between studies which report a good fit of the unidimensional solution (Juárez & Contreras, 2008), two-factor solution (Zhou, 2016), and three-factor solution (Bosscher & Smit, 1998).

Schwarzer and Jerusalem's *General Perceived Self-Efficacy Scale* (1995) contains ten items such as: "Thanks to my resourcefulness, I know how to handle unforeseen situations" and "It is easy for me to stick to my aims and accomplish my goals". Reliability analysis results from 25 countries showed high internal consistency of the scale (the lowest .75 and the highest .91) and its unidimensional structure (Scholz et al., 2002). General self-efficacy measured with this scale was related to affective psychological reactance (De las Cuevas & Peñate, 2015), mental work capacity (Löve et al., 2012), and lower risk of self-diagnosed depression (Bonsaksen et al., 2018). In Poland, GSE is most often measured (see: Rode & Rode, 2018; Ślebarska, 2014; Zawadzka et al., 2018) with an adaptation of Schwarzer and Jerusalem's *General Perceived Self-Efficacy Scale* (Juczyński, 1997) which requires a fee for usage.

In 2001 Chen et al. developed *New General Self-Efficacy Scale* (NGSE) to address Sherer et al. (1982) *General Self-Efficacy Scale* limitations and to capture the conceptualization of the GSE, defined as "one's belief in one's overall competence to effect requisite performance across a wide variety of achievement situations" (Eden, 2012). The scale consists of eight items which examples are: "Even when things are tough, I can perform quite well" and "In general, I think that I can obtain outcomes that are important to me". In a validation study, the scale's internal consistency ranged from .86 to .90, and factor analysis revealed the best fit of the unidimensional structure, as it explained 52 and 59 percent of the variance. Further research confirmed factor structure and high internal consistency of the scale

Lidia Baran, Maciej Janowski, General Self-Efficacy Associations with Personality and Motivation: Psychometric Properties and Measurement Invariance of the Polish New General Self-Efficacy Scale. *Studia Psychologica: Theoria et Praxis*, 23(1), 17–32.
https://doi.org/10.21697/sp.2023.23.1.02

(Chen et al., 2004) and showed that its overall score predicted work engagement (Bosch et al., 2018), differentiated entrepreneurs from non-entrepreneurs (Markman et al., 2002), and correlated with self-judgment, self-responding, and over-identification (Neff et al., 2018).

### THE AIM OF THE STUDY

The objectives of this research were to prepare and validate the Polish version of Chen et al. (2001) *New General Self-Efficacy Scale* resulting from a desire to provide Polish researchers with a new, freely available, reliable, and valid tool enabling GSE measurement. Measuring general self-efficacy also allows exploring the connections between global beliefs about the ability to perform behaviors effectively and personality traits, achievement goals, or coping. Choosing the *New General Self-Efficacy Scale* was motivated by its slight psychometric advantage over the other described methods in terms of item discrimination, item information, and relative efficiency of the test information function (Scherbaum et al., 2006) and consistent factor structure (Aamir et al., 2017).

## METHOD

### DEVELOPMENT OF THE ORIGINAL SCALE

The *New General Self-Efficacy Scale* consists of eight items to which participants answer on a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*). A high score on the scale indicates a high level of general self-efficacy. The scale's reliability in validation studies (Chen et al., 2001) was satisfactory: internal consistency above .80 and test-retest coefficients above .60. Factor analysis in all three samples showed a unidimensional structure of the scale. Content validity assessed by eight graduate psychology students resulted in sorting 98% of the scale items to the category general self-efficacy, defined as: "one's estimate of one's overall ability to perform successfully in a wide variety of achievement situations, or to how confident one is that she or he can perform effectively across different tasks and situations" (Chen et al., 2001, p. 79). Overall results correlated positively with scores obtained from the *General Self-Efficacy Scale* (.78 and .74) and predicted specific exam self-efficacy ($\beta = .44$, $p < .01$).

### DEVELOPMENT OF THE POLISH VERSION

Six psychologists working as university faculty members translated the original items (Chen et al., 2001) into Polish. The first author compared the translations and chose the final version based on their compatibility with the original meaning and consistency in phrasing between all translators. The next step involved back-translation of the Polish items to English carried out by a certified translator and a comparison of the original and back-translated versions performed by an English native speaker with a psychology degree. All back-translated items were evaluated as consistent in meaning with their original versions. The final items are available in the *Appendix*. Below we describe the results of scale analyses conducted on data obtained from four samples.

Lidia Baran, Maciej Janowski, General Self-Efficacy Associations with Personality and Motivation: Psychometric Properties and Measurement Invariance of the Polish New General Self-Efficacy Scale. *Studia Psychologica: Theoria et Praxis*, 23(1), 17–32.
https://doi.org/10.21697/sp.2023.23.1.02

## PARTICIPANTS AND PROCEDURE

**Sample 1**
Data ($N$ = 716; 344 women, 233 men, 139 missing data; $M_{age}$ = 23.32, $SD_{age}$ = 8.13) were collected from the general Polish population recruited by undergraduate psychology students as a part of the course assignment. Respondents received a set of tests from students and filled them out alone or accompanied by the students conducting research.

**Sample 2**
Three hundred and ninety Polish students (290 women; $M_{age}$ = 23, $SD_{age}$ = 3.39) of social sciences (66 persons), humanities (48 persons), business and law (84 persons), medical science (90 persons) and natural and formal science (95 persons; 7 missing data) participated in the study. Participants were evenly distributed in terms of year of study, with a slightly higher number of third-year students. Data were collected for three months through LimeSurvey online platform to maximize the anonymity of the participants. A link to the survey with a short project description was sent to 28 Polish universities.

**Sample 3**
Data were collected from 201 people from the general Polish population (176 women; $M_{age}$ = 25, $SD_{age}$ = 4.18). Concerning years of education, one participant studied for less than ten years, 88 participants for more than ten but less than 13 years, and 112 participants for more than 13 years. The measurement was conducted online via the LimeSurvey platform. Invitation to participate in the study was published on student social platforms and social media (e.g., Facebook).

**Sample 4**
The study design included two measurements of GSE among Polish women conducted shortly after their return to work (up to one month) after the maternity leave and after the re-adaptation period (13 to 15 weeks later). The first survey was completed by 530 women, and the second one by 166 women. The average age was 31 ($SD$ = 3.8), and most participants had a university degree (90%). The NGSEpl was completed both times online, using Google Forms®, available through a link sent by email.

## MEASURES

General self-efficacy was measured with the NGSEpl.

The Brief COPE scale (Carver, 1997; Polish version Juczyński & Ogińska-Bulik, 2009) was used to assess a broad range of coping reactions during difficult situations. It consists of 28 items (e.g., "I've been criticizing myself") describing 14 coping strategies. Every item is rated on a four-point scale (0 = *I do this almost never*, 3 = *I do this almost always*). Higher summed scores indicate higher levels of particular coping strategies.

We used the Polish translation (Baran, 2020) of the Achievement Goal Questionnaire-Revised (AGQR; Elliot & Murayama, 2008) to evaluate goal orientation. AGQR consists of 12 items measuring mastery (six items, e.g., "My aim is to completely master the material presented in this class") and performance (six items, e.g., "My aim is to perform well relative to other students") goals on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher summed scores on the scale indicate higher mastery and performance goals.

The declared frequency of committing acts of academic dishonesty was measured with the *Academic Dishonesty Scale* (Sanecka & Baran, 2015), including 16 types of dishonest behaviors. Participants evaluated on a 5-point scale (0 = *not once*, 4 = *many times*) how often

they have committed each form of academic dishonesty (e.g., using crib notes on a test or helping someone else cheat on a test) during their studies. A high summed score on the scale indicates a high declared frequency of academic dishonesty.

The Polish version (Sorokowska et al., 2014) of the *Ten-Item Personality Inventory* (Gosling et al., 2003) was used to assess personality traits. The 10-item scale measures the Big Five personality dimensions (extraversion, agreeableness, conscientiousness, emotional stability, openness to experience) on a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). High averaged scores indicate a high level of the particular personality trait.

## RESULTS

### RELIABILITY AND FACTOR STRUCTURE

Reliability analyses were conducted in IBM SPPP Statistics 28.0.1.0. All calculations were run first on the pooled data ($N$ = 1837; 1340 women; $M_{age}$ = 25.6, $SD_{age}$ = 6.84) and then separately on data from particular samples. Descriptive statistics, sex differences, and Cronbach's αs for NGSEpl are presented in Table 1.

**Table 1. Descriptive statistics, sex differences, and Cronbach's α for NGSEpl scores in pooled data and four samples**

| | *M* | *SD* | *t* | *d* | α [95%CI] |
|---|---|---|---|---|---|
| Pooled data | 30.24 | 5.66 | -1.39 | -.08 | .89 [.88; .90] |
| Sample 1 | 29.78 | 5.38 | -5.49* | -.47 | .87 [.85; .88] |
| Sample 2 | 30.45 | 5.85 | 1.80 | .21 | .89 [.97; .92] |
| Sample 3 | 28.71 | 6.50 | -0.93 | -.20 | .91 [.89; .93] |
| Sample 4 T1 | 31.29 | 5.35 | - | - | .90 [.89; .92] |
| Sample 4 T2 | 30.98 | 5.57 | - | - | .92 [.90, .94] |

*Note.* T1 – first measurement, T2 – second measurement

* $p < .05$

Results show high internal consistency of the Polish version on NGSE for the pooled data and in all samples. To assess the scale's structure, we conducted a series of confirmatory factor analyses in JASP 0.17.1.0. We chose maximum likelihood (ML) as an estimator for pooled data and sample 1. For samples 2, 3, and 4, we used diagonally weighted least squares (DWLS) because it is recommended for calculating model fit in cases when the sample is small and variables have skewed distribution of scores (Li, 2016; Mîndrilă, 2010; Rhemtulla et al., 2012). Bootstrap was set at 10,000 samples. The results in Table 2 indicate a good fit of the one-factor solution for pooled data and all samples (Nye & Drasgow, 2011).

**Table 2. Results of confirmatory factor analysis in pooled data and four samples**

| | $\chi^2$ | $\chi^2/df$ | NFI | CFI | GFI | RMR | RMSEA [90% CI] |
|---|---|---|---|---|---|---|---|
| Pooled data | 318.07* | 15.90 | .95 | .96 | 1 | .03 | .09 [.08;.10] |
| Sample 1 | 84.19* | 4.21 | .96 | .97 | 1 | .03 | .07 [.05,.08] |
| Sample 2 | 16.17 | 0.80 | .99 | 1 | 1 | .04 | .00 [.00,.03] |
| Sample 3 | 11.65 | 0.60 | .99 | 1 | 1 | .05 | .00 [.00,.02] |
| Sample 4 | 29.55 | 1.48 | .99 | 1 | .99 | .04 | .03 [.00,.05] |

* $p < .05$

## MEASUREMENT INVARIANCE

Because the data from the presented studies were obtained from participants aged 15 to 65, we could calculate the measurement invariance (MI) of NGSEpl across different age groups. The purpose of testing MI is to establish whether, under different conditions, the measurement provides results of the same attributes (Horn & McArdle, 1992). Conducting tests for MI includes several stages, each characterized by specific restrictions of the factor models. The initial model tests configural invariance, and model parameters from all groups are treated as potentially independent. The next model tests metric invariance in which factor loadings for items are invariant across groups. In the scalar invariance model, we hypothesize that factor loadings and intercepts of items' regressions on the latent variable are invariant across groups. Finally, in the strict invariance model, restrictions are placed on the items' unique variances, which are expected to be invariant across groups (Grygiel, 2016; Vandenberg & Lance, 2000).

For the purpose of the analysis, NGSEpl polled data have been divided into two age groups with a split point at age 24. The decision to compare groups created in this way was caused by the fact that GSE comprises all individual experiences of success and failure (Sherer et al., 1982) and thus should vary between younger and older participants due to a different amount of previously experienced successes and failures. If NGSEpl data proved to be invariant for those groups, any differences in GSE obtained for them would result from actual differences in GSE and not from different properties of the scale itself. Additionally, a data distribution analysis showed that a selected split point allows the creation of groups of even sizes, which is important in calculating measurement invariance. Because of the missing information about age 30, participants have to be excluded from this analysis. Descriptive statistics for both groups are presented in Table 3.

**Table 3. Descriptive statistics for global self-efficacy in two age samples**

| Group | *N* | | Age | | GSE | | *t*-test | Cohen's *d* [95% CI] |
|---|---|---|---|---|---|---|---|---|
| | Women | Men | *M* | *SD* | *M* | *SD* | | |
| 1 | 642 | 289 | 20.66 | 1.64 | 29.64 | 5.74 | -4.914* | -.234 [-.324;-.139] |
| 2 | 763 | 113 | 30.98 | 6.22 | 30.94 | 5.53 | | |

*$p$ < .001

Measurement invariance was calculated in the R Studio program with the lavaan package. Results are presented in Table 4.

**Table 4. Tests of measurement invariance for NGSEpl results in two age samples**

| Model | $\chi^2$ (*df*) | $\Delta\chi^2$ ($\Delta df$) | RMSEA | RMSEA 90% CI | ΔRMSEA | CFI | ΔCFI | TLI | SRMR |
|---|---|---|---|---|---|---|---|---|---|
| Configural invariance | 65.172** (40) | | .026 | .014-.038 | | .997 | | .995 | .036 |
| Metric invariance | 71.526* (47) | 6.354 (7) | .026 | .014-.038 | .000 | .997 | .000 | .996 | .038 |
| Scalar invariance | 105.752*** (54) | 34.226*** (7) | .033 | .023-.042 | .007 | .993 | -.004 | .993 | .043 |
| Stricte invariance | 123.443*** (62) | 17.691* (8) | .033 | .025-.042 | .007 | .992 | -.005 | .993 | .050 |

* $p$ < .05; ** $p$ < .01; *** $p$ < .001

According to the criteria of evaluating goodness-of-fit indexes for measurement invariance in large samples (over 300 participants), CFI should not decrease by more than .01 and RMSEA by more than .007 (Byrne & Van de Vijver, 2010; Cheung & Rensvold, 2002;

Meade et al., 2008). The results presented in Table 4 did not exceed those limits at any level, which indicates metric, scalar, and strict NGSEpl measurement invariance for both age groups. Confirming equivalence enables us to interpret intergroup differences in NGSESpl scores as caused by actual differences in GSE between age groups and not by differences in the scale statistical properties in those groups. At the computational level, it means we are allowed to test relations between GSE and other variables and to test differences in latent group means (Lubiewska & Głogowska, 2018).

## STABILITY

The stability of NGSEpl results was examined in a specific group (Sample 4) of women who returned to work after giving birth to a child. The purpose of assessing scale stability in this sample was to evaluate them in work-related contexts in which most self-efficacy studies took place in the past. The stability of the scale measured with Pearson's *r* coefficient (calculated in IBM SPPP Statistics 28.0.1.0) was .68 ($p < .001$). Results of the *t*-test for dependent samples reveal a significant difference between the first ($M = 31.74$, $SD = 5.18$) and the second ($M = 30.98$, $SD = 5.57$) measurement ($t = 2.26$, $p = .01$), with effect size $d = .18$. The obtained results showed that stability of the scale was satisfactory, especially considering that participants were going through a transitional period in a work context during which overall GSE level had decreased, probably due to difficulties in adapting to the new situation. These results suggest that NGSEpl is sensitive to changes in GSE and helpful in measuring differences in their levels through time.

## VALIDITY

Concerning scale validity, we hypothesized that GSE measured with the NGSEpl would be related to coping strategies (Sample 1), goal orientation, academic dishonesty (Sample 2), and personality traits (Sample 3). Previous studies showed that active coping and planning correlate positively with goal commitment and goal progress and negatively with self-distraction, denial, and disengagement (Monzani et al., 2015). In light of those results and the fact that self-efficacy affects the initiation and persistence of coping behavior (Bandura, 1977), it may be assumed that it corresponds to the frequency of active coping strategies in stressful situations, such as solving problems or planning (Chodkiewicz & Gruszczyńska, 2013; Piergiovanni & Depaula, 2018), and it is negatively related to counterproductive ones, such as problem avoidance or self-blaming (Luque Salas et al., 2017).

The GSE's specificity also involves its relation to motivational traits and states, such as the need for achievement or SSE in a particular domain (Kanfer & Heggestad, 1997). Previous researches show that individuals with high GSE are oriented more toward the learning goals based on the need for achievement and less or not at all on the performance goals based on the reduction of anxiety (Bell & Kozlowski, 2002; Chen et al., 2000; Phillips & Gully, 1997). Moreover, through SSE, GSE indirectly influences specific performance, such as students' academic performance (Chen et al., 2004; Phillips & Gully, 1997). Some analysis of the relationship between global self-efficacy and goal orientation also suggests that a perceived competence to be effective, as a component of self-efficacy, precedes the motivation for achievements which in turn influences behavior (Elliot & Church, 1997). Thus, we wanted to determine whether general self-efficacy measured with NGSEpl will be related to mastery-goal orientation (but not to performance-goal orientation), which in turn will be associated with the frequency of particular behavior – committing academic dishonesty.

Lidia Baran, Maciej Janowski, General Self-Efficacy Associations with Personality and Motivation: Psychometric Properties and Measurement Invariance of the Polish New General Self-Efficacy Scale. *Studia Psychologica: Theoria et Praxis*, 23(1), 17–32.
https://doi.org/10.21697/sp.2023.23.1.02

Academic fraud among students is a common phenomenon (McCabe, 2005) caused very often by unfavorable situational factors such as pressure or lack of time to study (Beasley, 2014; Whitley, 1998) but also by a specific set of motivational traits. Students focused on mastery goals, who study to acquire knowledge, cheat less frequently than those focused on performance goals, who study to prove their competence and ability to others (Bong et al., 2014; Rettinger & Kramer, 2009; Yang et al., 2013). In line with mentioned above relation between goal orientation and self-efficacy, we hypothesize that individuals with a high general self-efficacy focused on the mastery-goals will engage in less dishonest academic behaviors because of strong beliefs in their ability to succeed and an orientation toward mastery in studies resulting from them (Bong et al., 2014; Cerino, 2014; Murdock & Anderman, 2006).

Finally, previous research shows a specific pattern of relations between personality traits and GSE involving its positive correlation with extraversion, conscientiousness, emotional stability, and openness to experience (Chen et al., 2004; Judge et al., 2002; Noe et al., 2013; Yao et al., 2018; Wang et al., 2014). This means that people with high GSE tend to explore and learn through new experiences, may appear more dominant, efficient, hardworking, and less prone to unstable emotional reactions driven by anxiety. In the case of agreeableness, the results are somewhat inconclusive, showing strong positive (Noe et al., 2013), weak negative (Ebstrup et al., 2013), or no relation (Kaczmarek & Kaczmarek-Kurczak, 2014) to GSE. Since agreeableness is associated with the tendency to cooperate or compete with others, its association with individual beliefs about effectiveness might be moderated by contextual factors such as occupation or professional position. Extensive studies by Judge et al. (2002) suggest that although the relationships between GSE, conscientiousness, and extraversion are stronger than between GSE, openness to experiences, and agreeableness, all of those traits are related to GSE and can be treated as an indicator of its level.

## CORRELATION ANALYSIS

Correlation analysis was conducted in IBM SPPP Statistics 28.0.1.0. Because of the missing data, analyses concerning coping styles and GSE (Sample 1) were conducted on data from 573 participants (336 women, 231 men, 6 no data). Descriptive statistics and correlations between GSE and other variables are presented in Table 5.

Results of NGSEpl correlated positively with active coping planning, positive reframing, acceptance, humor, mastery-goal orientation, all personality traits, and negatively with religion, use of instrumental support, denial, venting, substance use, behavioral disengagement, and self-blame. They did not correlate significantly with the use of emotional support, self-distraction, performance-goal orientation, or declared academic dishonesty.

We conducted structural equation modeling using JASP 0.17.1.0 with DWLS as an estimator and 10000 bootstrap samples to confirm expected relations between GSE, mastery-goal orientation and declared academic dishonesty. The obtained model showed good fit indexes: $\chi^2 = .30$ ($df = 1$; $p = .58$); $\chi 2/df = .30$; NFI = .994; GFI = .994; CFI = 1; RMR = .013; RMSEA = .000 [.000, .110] (Nye & Drasgow, 2011). GSE was positively related to mastery-goal orientation ($\beta = .21$; $p < .001$), which was negatively related to declared academic dishonesty ($\beta = -.38$; $p < .001$).

**Table 5. Descriptive statistics and Pearson's r coefficients for global self-efficacy and coping strategies, goal orientations, declared academic dishonesty, and personality traits**

| | *M* | *SD* | *r* |
|---|---|---|---|
| Active coping | 4.28 | 1.21 | .44** |
| Planning | 4.28 | 1.25 | .34** |
| Positive reframing | 3.42 | 1.44 | .24** |
| Acceptance | 3.61 | 1.50 | .10* |
| Humor | 2.26 | 1.52 | .18** |
| Religion | 1.93 | 2.03 | -.09* |
| Use of emotional support | 3.66 | 1.66 | -.05 |
| Use of instrumental support | 3.62 | 1.60 | -.11** |
| Self-distraction | 3.27 | 1.46 | -.05 |
| Denial | 1.51 | 1.46 | -.20** |
| Venting | 3.04 | 1.40 | -.15** |
| Substance use | 1.26 | 1.64 | -.10* |
| Behavioral disengagement | 1.48 | 1.31 | -.54** |
| Self-blame | 3.15 | 1.67 | -.32** |
| Mastery-goal orientation | 22.29 | 4.05 | .23** |
| Performance-goal orientation | 19.56 | 5.23 | .04 |
| Declared academic dishonesty | 13.12 | 10.21 | -.05 |
| Extraversion | 4.88 | 1.63 | .51** |
| Agreeableness | 5.31 | 1.25 | .15* |
| Conscientiousness | 5.05 | 1.73 | .22** |
| Emotional stability | 3.79 | 1.85 | .55** |
| Openness to experience | 4.80 | 1.25 | .40** |

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

## DISCUSSION

Results of all four presented studies confirm good psychometric properties of the Polish version of the *New General Self-Efficacy Scale*. The obtained data showed high internal consistency and a unidimensional structure of NGSEpl in various populations and measurement invariance of the scale. The previously described relations of GSE measured with NGSE with behavioral tendencies, personality, and motivational traits were confirmed by validity analysis.

As previously (Chodkiewicz & Gruszczyńska, 2013; Freire et al., 2020; Luque Salas et al., 2017; Piergiovanni & Depaula, 2018), relations between global self-efficacy and active coping strategies were positive, and with passive coping strategies were negative. This means that people who believe they can act in a particular way to achieve goals may perceive stressful situations as a problem to solve and engage in planning and specific actions to do that, or if something is out of their control – accept it, reframe the problem positively or engage in humor. On the other hand, people with low self-efficacy who do not believe in their ability to face challenges effectively may feel helpless in stressful situations and thus engage in behavioral disengagement, denial, or self-blame. As a result, people with high GSE may not only cope better with the challenges but also gain experiences in handling problems that might reinforce their GSE. The passive strategies used by people with low GSE reduce their chances of facing difficult situations and thus strengthen the belief that coping successfully with them is beyond their capabilities.

Our findings are also consistent with the thesis formulated by Elliot and Church (1997) about the indirect effect of GSE on behavioral tendencies and with previous research reporting a significant relationship between GSE and goal orientation (Bell & Kozlowski,

2002; Diseth, 2011). For individuals with high GSE, who believe in their global competence to deal with a variety of situations effectively, the academic context seems to offer an opportunity to master the knowledge and to become as good as possible in the chosen area of study. The common property of GSE and mastery-goal orientation, probably responsible for their relation, is the focus on personal resources in striving for excellence and acquiring new skills or knowledge. By contrast, GSE and performance-goal orientation do not correlate with each other significantly, probably because performance-oriented people are motivated to achieve a certain level of task performance compared to others (better, the same, or not worse as them) which does not allow them to shape global and stable belief about their efficiency. Moreover, students who experience a high sense of global self-efficacy tend to incorporate mastery-oriented goals in their studies and, thus, less frequently engage in academic dishonesty. The small and non-significant correlation between GSE and the frequency of committing academic fraud supports a theoretical model in which GSE, as a general tendency, is to a lesser degree or not at all related directly to a specific behavior (Kulik & Frańczyk, 2016) and instead influence it through other variables such as SSE or goal orientation in a particular domain (Shelton, 1990).

Finally, our results confirm the hypothesized and previously reported relations between GSE and emotional stability, extraversion, and openness to experience (Judge et al., 2002; Noe et al., 2013; Yao et al., 2018; Wang et al., 2014). Regarding conscientiousness, its relationship with GSE was significant and positive, as expected, although lower than this obtained in Judge et al. (2002) meta-analysis. The correlation coefficient for agreeableness and GSE were similar to the one in the studies reporting its magnitude of up to .20 (Ebstrup et al., 2011; Strobel et al., 2011) and its positive direction (Djigić et al., 2014; Noe et al., 2013). Similarly to our results, previous research in Poland concerning personality traits and GSE did not confirm a significant relationship between GSE and agreeableness. However, they revealed heterodox correlations between personality traits and GSE depending on the types of participants. For example, among teachers, the relationships between GSE, openness to experience, and extraversion were weaker compared to a sample of unemployed persons (Zawadzka et al., 2018; Zięba et al., 2018) and a sample from the general population reported by Judge et al. (2002). Thus, it seems that the relationship between GSE and personality traits may be influenced by the character of the sample or by specific cultural differences.

Described project is not free of limitations. First, the research groups consisted mainly of young adults, so obtained relations between self-efficacy and other variables could be slightly different in other age groups, which should be explored in future studies. Second, based on age division of the data used for measurement invariance tests has more empirical than theoretical character, and thus further confirmation of MI could be obtained among groups distinguished based on clear theoretical criteria. Third, validity analysis may be somewhat limited by measuring the declared behavior frequency, which the participants might underestimate or overestimate. Finally, the results of the structural equation modeling need to be interpreted cautiously since all variables were measured at the same time. Future research should attempt to replicate those results in experimental design and longitudinal analysis.

Despite those limitations, obtained results have practical implications for psychological interventions in health, educational, and occupational domains, which seem to be worth further exploration. Described GSE associations with personality traits may be important for psychological counseling and coaching in which shaping the client's self-efficacy is a crucial element leading to behavioral change, such as smoking cessation (Mudde et al., 1995) or change of eating habits (Schwarzer & Renner, 2000). Dealing with academic dishonesty and student motivation to learn require individual and group interventions in which developing the described relation between GSE and achievement goals could be considered. Creating opportunities for students to develop their academic self-efficacy, for example, through

adaptive learning and testing, might lead to setting more mastery-oriented goals and also to better overall academic performance (see Dehyadegary et al., 2014; Honicke & Broadbent, 2016; Talsma et al., 2019). It also seems important to address the observed decrease in GSE among women who return to work after maternity leave, perhaps through psychoeducation, psychological counseling, or self-efficacy training during the return-to-work phase. Interventions of those types seem particularly important in light of the described relationships between self-efficacy and passive coping strategies. Individuals who act counterproductively in the face of challenges might have difficulties undertaking actions strengthening SSE, which affects the level of GSE (Chen et al., 2001; Shelton, 1990).

In sum, based on the obtained data, we established psychometric properties of the NGSEpl, confirming the usefulness of that measure in assessing general self-efficacy. We described relationships between global self-efficacy measured with NGSEpl and various psychological characteristics in different contexts, and we have indicated research areas for further exploration in which self-efficacy is a significant predictor of individual psychological functioning.

## APPENDIX

NGSEpl

Na skali od 1 do 5 określ, na ile zgadzasz się z każdym z poniższych stwierdzeń. Przyjmij, że poszczególne cyfry oznaczają:
1 – zdecydowanie nie zgadzam się
2 – raczej się nie zgadzam
3 – nie mam zdania
4 – raczej się zgadzam
5 – zdecydowanie się zgadzam

| | | | | | |
|---|---|---|---|---|---|
| Jestem w stanie osiągnąć większość celów, które sobie wyznaczyłem/łam. | 1 | 2 | 3 | 4 | 5 |
| Gdy staję przed trudnymi zadaniami, jestem pewny/a, że uda mi się je zrealizować. | 1 | 2 | 3 | 4 | 5 |
| Generalnie uważam, że jestem w stanie osiągnąć rezultaty, które są dla mnie ważne. | 1 | 2 | 3 | 4 | 5 |
| Wierzę, że mogę osiągnąć sukces w prawie każdym przedsięwzięciu, którego się podejmę. | 1 | 2 | 3 | 4 | 5 |
| Jestem w stanie skutecznie sprostać wielu wyzwaniom. | 1 | 2 | 3 | 4 | 5 |
| Jestem pewny/a, że potrafię skutecznie wykonać wiele różnych zadań. | 1 | 2 | 3 | 4 | 5 |
| W porównaniu do innych ludzi, potrafię wykonać większość zadań bardzo dobrze. | 1 | 2 | 3 | 4 | 5 |
| Nawet, gdy sytuacja jest trudna, potrafię działać całkiem dobrze. | 1 | 2 | 3 | 4 | 5 |

## REFERENCES

Aamir, S., Tallouzi, E.A., Pilotti, M.A.E., & El Alaoui, K. (2017). The New General Self-Efficacy Scale: a matter of language. In Y. Gadhoum (Ed.), *ICAR-2017 1st International Conference on Advanced Research V. 1* (pp. 83–94). Asia Pacific Institute of Advanced Research (APIAR).

Ahmad, A., & Safaria, T. (2013). Effects of self-efficacy on students' academic performance. *Journal of Educational, Health and Community Psychology, 2*(1), 22–29. http://dx.doi.org/10.12928/jehcp.v2i1.3740

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215.

Bandura, A. (1992). Exercise of personal agency through the self-efficacy mechanism. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 3–37). Taylor & Francis.

Bandura, A. (1997). *Self-efficacy. The exercise of control*. W.H. Freeman and Company.

Beasley, E.M. (2014). Students reported for cheating explain what they think would have stopped them. *Ethics & Behavior, 24*(3), 229–252. https://doi.org/10.1080/10508422.2013.845533

Bell, B.S., & Kozlowski, S.W.J. (2002). Goal orientation and ability: Interactive effects on self-efficacy, performance, and knowledge. *Journal of Applied Psychology, 87*, 497–505. http://dx.doi.org/10.1037/0021-9010.87.3.497

Blackstock, F.C., Webster, K.E., McDonald, C.F., & Hill, C.J. (2018). Self-efficacy predicts success in an exercise training-only model of pulmonary rehabilitation for people with COPD. *Journal of Cardiopulmonary Rehabilitation and Prevention*, *38*(5), 333–341. http://dx.doi.org/10.1097/HCR.0000000000000322

Blank, M.L., Connor, J., Gray, A., & Tustin, K. (2016). Alcohol use, mental well-being, self-esteem and general self-efficacy among final-year university students. *Social Psychiatry and Psychiatric Epidemiology*, *51*(3), 431–441. https://doi.org/10.1007/s00127-016-1183-x

Bonetti, D., Johnston, M., Rodriguez-Marin, J., Pastor, M., Martin-Aragon, M., Doherty, E., & Sheehan, K. (2001). Dimensions of perceived control: A factor analysis of three measures and an examination of their relation to activity level and mood in a student and cross-cultural patient sample. *Psychology and Health*, *16*(6), 655–674. https://doi.org/10.1080/08870440108405865

Bong, M., Hwang, A., Noh, A., & Kim, S. (2014). Perfectionism and motivation of adolescents in academic contexts. *Journal of Educational Psychology, 10*, 1–16. https://doi.org/10.1037/a0035836

Bonsaksen, T., Grimholt, T.K., Skogstad, L., Lerdal, A., Ekeberg, Ø., Heir, T., & Schou-Bredal, I. (2018). Self-diagnosed depression in the Norwegian general population – associations with neuroticism, extraversion, optimism, and general self-efficacy. *BMC Public Health*, *18*(1), Article 1076. https://doi.org/10.1186/s12889-018-5990-8

Bosch, C., Sonnentag, S., & Pinck, A.S. (2018). What makes for a good break? A diary study on recovery experiences during lunch break. *Journal of Occupational and Organizational Psychology*, *91*(1), 134–157. https://doi.org/10.1111/joop.12195

Bosscher, R.J., & Smit, J.H. (1998). Confirmatory factor analysis of the General Self-Efficacy Scale. *Behaviour Research and Therapy*, *36*(3), 339–343. http://dx.doi.org/10.1016/S0005-7967(98)00025-4

Byrne, B.M., & Van de Vijver, F.J. (2010). Testing for measurement and structural equivalence in large-scale cross-cultural studies: Addressing the issue of nonequivalence. *International Journal of Testing*, *10*(2), 107–132. https://doi.org/10.1080/15305051003637306

Calogero, R.M., Tylka, T.L., Donnelly, L.C., McGetrick, A., & Leger, A.M. (2017). Trappings of femininity: A test of the "beauty as currency" hypothesis in shaping college women's gender activism. *Body Image*, *21*, 66–70. https://doi.org/10.1016/j.bodyim.2017.02.008

Carver, C.S. (1997). You want to measure coping but your protocol' too long: Consider the brief cope. *International Journal of Behavioral Medicine*, *4*(1), 92–100. https://doi.org/10.1207/s15327558ijbm0401_6

Cerino, E.S. (2014). Relationships between academic motivation, self-efficacy, and academic procrastination. *Journal of Psychological Research, 19*(4), 156–163. https://doi.org/10.24839/2164-8204.JN19.4.156

Chen, G., Gully, S.M., & Eden, D. (2001). Validation of a New General Self-Efficacy Scale. *Organizational Research Methods*, *4*(1), 62–83. https://doi.org/10.1177/109442810141004

Chen, G., Gully, S.M., & Eden, D. (2004). General self-efficacy and self-esteem: Toward theoretical and empirical distinction between correlated self-evaluations. *Journal of Organizational Behavior, 25*, 375–395. https://doi.org/10.1002/job.251

Chen, G., Gully, S.M., Whiteman, J.A., & Kilcullen, R.N. (2000). Examination of relationships among trait-like individual differences, state-like individual differences, and learning performance. *Journal of Applied Psychology*, *85*(6), 835–847. https://doi.org/10.1037//0Q21-9010.85.6.835

Cheung, G.W., & Rensvold, R.B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, *9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5

Chodkiewicz, J., & Gruszczyńska, E. (2013). Changes in well-being, self-efficacy, and coping strategies during residential treatment of alcohol-addicted patients. *Roczniki Psychologiczne*, *16*(1), 85–105.

De las Cuevas, C., & Peñate, W. (2015). Validation of the General Self-Efficacy Scale in psychiatric outpatient care. *Psicothema*, *27*(4), 410–415. https://doi.org/10.7334/psicothema2015.56

Dehyadegary, E., Divsalar, P., Nasehzadeh, A., Ebrahimi, N., Kouros, D., & Sheykh-Aleslami, A. (2014). Self-efficacy; the strongest predictor of academic involvement in high school students. *Life Science Journal*, *11*, 19–27.

Diseth, Å. (2011). Self-efficacy, goal orientations and learning strategies as mediators between preceding and subsequent academic achievement. *Learning and Individual Differences*, *21*(2), 191–195. https://doi.org/10.1016/j.lindif.2011.01.003

Djigić, G., Stojiljković, S., & Dosković, M. (2014). Basic personality dimensions and teachers' self-efficacy. *Procedia-Social and Behavioral Sciences, 112*, 593–602. https://doi.org/10.1016/j.sbspro.2014.01.1206

Ebstrup, J.F., Aadahl, M., Eplov, L.F., Pisinger, C., & Jørgensen, T. (2013). Cross-sectional associations between the five factor personality traits and leisure-time sitting-time: The effect of general self-efficacy. *Journal of Physical Activity and Health*, *10*(4), 572–580. https://doi.org/10.1123/jpah.10.4.572

Ebstrup, J.F., Eplov, L.F., Pisinger, C., & Jørgensen, T. (2011). Association between the Five Factor personality traits and perceived stress: is the effect mediated by general self-efficacy? *Anxiety, Stress & Coping*, *24*(4), 407–419. https://doi.org/10.1080/10615806.2010.540012

Eden, D. (2012). Means efficacy: External sources of general and specific subjective efficacy. In M. Erez, U. Kleinbeck, & H. Thierry (Eds.), *Work motivation in the context of a globalizing economy*. Lawrence Erlbaum.

Eden, D., & Aviram, A. (1993). Self-efficacy training and speed of reemployment: Helping people help themselves. *Journal of Applied Psychology, 78*, 352–360. https://doi.org/10.1037/0021-9010.78.3.352

Eden, D., & Granat-Flomin, R. (2000). *Augmenting means efficacy to improve service performance among computer users*. [Conference presentation]. 15th Annual Meeting of the Society for Industrial and Organizational Psychology, New Orleans, LA.

Elliot, A.J. & Church, M. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*, 218–232. http://dx.doi.org/10.1037/0022-3514.72.1.218

Elliot, A.J., & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology, 100*(3), 613–628. https://doi.org/10.1037/0022-0663.100.3.613

Freire, C., Ferradás, M.dM., Regueiro, B., Rodríguez, S., Valle, A., & Núñez, J.C. (2020). Coping strategies and self-efficacy in university students: a person-centered approach. *Frontiers in Psychology*, *11*, Article 841. https://doi.org/10.3389/fpsyg.2020.00841

Gosling, S.D., Rentfrow, P.J., & Swann, W.B. Jr. (2003). A very brief measure of the Big Five personality domains. *Journal of Research in Personality, 37*, 504–528. https://doi.org/10.1016/S0092-6566(03)00046-1

Grygiel, P. (2016). Test podłużnej niezmienności modelu podwójnego czynnika na przykładzie kwestionariusza poczucia integracji rówieśniczej. *Edukacja*, *137*(2), 79–99.

Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review, 17*, 63–84. https://doi.org/10.1016/j.edurev.2015.11.002

Horn, J.L., & McArdle, J.J. (1992). A practical and theoretical guide to measurement invariance in aging research. *Experimental Aging Research*, *18*(3), 117–144. https://doi.org/10.1080/03610739208253916

Jerusalem, M., & Mittag, W. (1995). Self-efficacy in stressful life transitions. In A. Bandura, (Ed.), *Self-efficacy in changing societies* (pp. 177-201). Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511527692.008

Juárez, F., & Contreras, F. (2008). Psychometric properties of the general self-efficacy scale in a Colombian sample. *International Journal of Psychological Research*, *1*(2), 6–12. https://doi.org/10.21500/20112084.907

Juczyński, Z. (1997). Psychologiczne wyznaczniki zachowań zdrowotnych na przykładzie badań osób dorosłych. In J. Łazowski, G. Dolińska-Zygmunt (Eds.), *Ku lepszemu funkcjonowaniu w zdrowiu i chorobie* (pp. 285–291). Wydawnictwo AWF.

Juczyński, Z. (2000). Poczucie własnej skuteczności – teoria i pomiar. *Acta Universitatis Lodziensis. Folia Psychologica*, *4*, 11–24.

Juczyński, Z., & Ogińska-Bulik, N. (2009). *Narzędzia pomiaru stresu i radzenia sobie ze stresem.* Pracownia Testów Psychologicznych PTP.

Judge, T.A., Erez, A., Bono, J.E., & Thoresen, C.J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology*, *83*(3), 693–710. https://doi.org/10.1037//0022-3514.83.3.693

Kaczmarek, M., & Kaczmarek-Kurczak, P. (2014). The self-efficacy (generalized as well as context specific), the big five traits and the effectiveness of the entrepreneurship education). *Psychological Studies*, *52*(4), 39–46. https://doi.org/10.2478/V10167-010-0107-9

Kanfer, R., & Heggestad, E.D. (1997). Motivational traits and skills: A person-centered approach to work motivation. *Research in Organizational Behavior, 19*, 1–56.

Kulik, A., & Frańczyk, E. (2016). Uwarunkowania osiągnięć młodych kobiet–związek poczucia własnej skuteczności z osiągnięciami akademickimi. *Edukacja Dorosłych*, *2*, 105–116.

Latham, G.P., & Locke, E.A. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes*, *50*(2), 212–247. https://doi.org/10.1016/0749-5978(91)90021-K

Li, C.H. (2016). The performance of ML, DWLS, and ULS estimation with robust corrections in structural equation models with ordinal variables. *Psychological Methods, 21*(3), 369–387. http://dx.doi.org/10.1037/met0000093

Löve, J., Moore, C.D., & Hensing, G. (2012). Validation of the Swedish translation of the general self-efficacy scale. *Quality of Life Research*, *21*(7), 1249–1253. https://doi.org/10.1007/s11136-011-0030-5

Lubiewska, K., & Głogowska, K. (2018). Zastosowanie analizy równoważności pomiarowej w badaniach psychologicznych. *Polskie Forum Psychologiczne*, *23*(2), 330–356. https://doi.org/10.14656/PFP20180207

Luque Salas, B., Yáñez Rodríguez, V., Tabernero Urbieta, C., & Cuadrado, E. (2017). The role of coping strategies and self-efficacy as predictors of life satisfaction in a sample of parents of children with autism spectrum disorder. *Psicothema*, *29*(1), 55–60. https://doi.org/10.7334/psicothema2016.96

Luszczynska, A., Gibbons, F.X., Piko, B., & Tckozel, M. (2004). Self-regulatory cognitions, social comparison, perceived peers' behaviors as predictors of nutrition and physical activity: A comparison among adolescents in Hungary. Poland, Turkey, and USA. *Psychology and Health*, *19*, 577–593. https://doi.org/10.1080/0887044042000205844

Markman, G.D., Balkin, D.B., & Baron, R.A. (2002). Inventors and new venture formation: The effects of general self–efficacy and regretful thinking. *Entrepreneurship Theory and Practice*, *27*(2), 149–165. https://doi.org/10.1111/1540-8520.00004

McCabe, D.L. (2005). Cheating among college and university students: a North American perspective. *International Journal of Educational Integration 1*, 1–11. https://doi.org/10.21913/IJEI.v1i1.14

Meade, A.W., Johnson, E.C., & Braddy, P.W. (2008). Power and sensitivity of alternative fit indices in tests of measurement invariance. *Journal of Applied Psychology*, *93*(3), 568–592. https://doi.org/10.1037/0021-9010.93.3.568

Mehler, D.M., Sokunbi, M.O., Habes, I., Barawi, K., Subramanian, L., Range, M., Evans, J., Hood, K., Lührs, M., Keedwell, P.M., & Goebel, R. (2018). Targeting the affective brain—a randomized controlled trial of real-time fMRI neurofeedback in patients with depression. *Neuropsychopharmacology*, *43*(13), 2578–2585. https://doi.org/10.1038/s41386-018-0126-5

Mîndrilă, D. (2010). Maximum likelihood (ML) and diagonally weighted least squares (DWLS) estimation procedures: A comparison of estimation bias with ordinal and multivariate non-normal data. *International Journal of Digital Society*, *1*(1), 60–66.

Monzani, D., Steca, P., Greco, A., D'Addario, M., Cappelletti, E., & Pancani, L. (2015). The situational version of the brief cope: dimensionality and relationships with goal-related variables. *Europe's Journal of Psychology*, *11*(2), 295–310. https://doi.org/10.5964/ejop.v11i2.935

Mudde, A.N., Kok, G., & Strecher, V.J. (1995). Self-efficacy as a predictor for the cessation of smoking: Methodological issues and implications for smoking cessation programs. *Psychology & Health, 10*(5), 353–367. https://doi.org/10.1080/08870449508401956

Multon, K.D., Brown, S.D., & Lent, R.W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, *38*(1), 30–38. http://dx.doi.org/10.1037/0022-0167.38.1.30

Murdock, T.B., & Anderman, E.M. (2006). Motivational perspectives on student cheating: toward an integrated model of academic dishonesty. *Educational Psychologist, 41*(3), 129–145. https://doi.org/10.1207/s15326985ep4103_1

Neff, K.D., Long, P., Knox, M.C., Davidson, O., Kuchar, A., Costigan, A., Williamson, Z., Rohleder, N., Tóth-Király, I., & Breines, J.G. (2018). The forest and the trees: Examining the association of self-compassion and its positive and negative components with psychological functioning. *Self and Identity,17*(6), 627–645. https://doi.org/10.1080/15298868.2018.1436587

Noe, R.A., Tews, M.J., & Marand, A.D. (2013). Individual differences and informal learning in the workplace. *Journal of Vocational Behavior*, *83*(3), 327–335. https://doi.org/10.1016/j.jvb.2013.06.009

Nye C.D., & Drasgow F. (2011). Assessing goodness of fit: Simple rules of thumb simply do not work. *Organizational Research Methods*, *14*(3), 548–570. https://doi.org/10.1177/1094428110368562.

Phillips, J.M., & Gully, S.M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal-setting process. *Journal of Applied Psychology*, *82*(5), 792–802. http://dx.doi.org/10.1037/0021-9010.82.5.792

Piergiovanni, L.F., & Depaula, P.D. (2018). Autoeficacia y estilos de afrontamiento al estrés en estudiantes universitarios. *Ciencias Psicológicas*, *12*(1), 17–24. https://doi.org/10.22235/cp.v12i1.1591

Rettinger, D., & Kramer, Y. (2009). Situational and personal causes of student cheating. *Research in Higher Education, 50*(3), 293–313. https://doi.org/10.1007/s11162-008-9116-5

Rhemtulla, M., Brosseau-Liard, P.É., & Savalei, V. (2012). When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM estimation methods under suboptimal conditions. *Psychological Methods*, *17*, 354–373. http://dx.doi.org/10.1037/a0029315

Rode, D., & Rode, M.M. (2018). The relationship between self-esteem, sense of self-efficacy and level of illness acceptance, and healthful behaviours in patients with long-term illnesses (type II diabetes, Hashimoto's disease). *Health Psychology Report, 3*(1), 158–170. http://dx.doi.org/10.1037/t01038-000

Sanecka, E., & Baran, L. (2015). Explicit and implicit attitudes toward academic cheating and its frequency among university students. *Polish Journal of Applied Psychology, 13*(2), 69–92. https://doi.org/10.1515/pjap-2015-0030

Scherbaum, C.A., Cohen-Charash, Y., & Kern, M.J. (2006). Measuring general self-efficacy: A comparison of three measures using item response theory. *Educational and Psychological Measurement, 66*(6), 1047–1063. https://doi.org/10.1177/0013164406288171

Scholz, U., Doña, B.G., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, *18*(3), 242–251. https://doi.org/10.1027//1015-5759.18.3.242

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). NFER-Nelson.

Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology, 57*, 152–171. https://doi.org/10.1111/j.1464-0597.2008.00359.x

Schwarzer, R., & Renner, B. (2000). Social-cognitive predictors of health behavior: Action self-efficacy and coping self-efficacy. *Health Psychology, 19*(5), 487–495. https://doi.org/10.1037/0278-6133.19.5.487

Sharma, H.L., & Nasa, G. (2016). Association between academic self-efficacy, academic help-seeking behaviour and achievement among secondary school students. *International Journal of Current Research*, *8*(11), 44455–44459.

Shelton, S.H. (1990). Developing the construct of general self-efficacy. *Psychological Reports, 66,* 987–994. https://doi.org/10.1177/003329419006600301

Sheeran, P., Maki, A., Montanaro, E., Avishai-Yitshak, A., Bryan, A., Klein, W.M., Miles, E., & Rothman, A.J. (2016). The impact of changing attitudes, norms, and self-efficacy on health-related intentions and behavior: A meta-analysis. *Health Psychology*, *35*(11), 1178–1188. https://doi.org/10.1037/hea0000387

Sherer, M., Maddux, J.E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R.W. (1982). The self-efficacy scale: construction and validation. *Psychological Reports, 51*, 663–671. http://dx.doi.org/10.2466/pr0.1982.51.2.663

Sorokowska, A., Słowińska, A., Zbieg, A., & Sorokowski, P. (2014). *Polska adaptacja testu Ten Item Personality Inventory (TIPI) – TIPI-PL – wersja standardowa i internetowa*. WrocLab.

Soysa, C.K., & Wilcomb, C.J. (2015). Mindfulness, self-compassion, self-efficacy, and gender as predictors of depression, anxiety, stress, and well-being. *Mindfulness*, *6*(2), 217–226. https://doi.org/10.1007/s12671-013-0247-1

Stajkovic, A.D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, *124*(2), 240–261. http://dx.doi.org/10.1037/0033-2909.124.2.240

Stanley, K.D., & Murphy, M.R. (1997). A comparison of general self-efficacy with self-esteem. *Genetic, Social, and General Psychology Monographs*, *123*, 79–100.

Strobel, M., Tumasjan, A., & Spörrle, M. (2011). Be yourself, believe in yourself, and be happy: Self-efficacy as a mediator between personality factors and subjective well-being. *Scandinavian Journal of Psychology*, *52*(1), 43–48. https://doi.org/10.1111/j.1467-9450.2010.00826.x

Ślebarska, K. (2014). Emotional costs, self-efficacy and coping strategies among unemployed individuals during professional internship. *The New Educational Review, 35*(1), 251–264.

Talsma, K., Schüz, B., & Norris, K. (2019). Miscalibration of self-efficacy and academic performance: Self-efficacy ≠ self-fulfilling prophecy. *Learning and Individual Differences, 69*, 182–195. https://doi.org/10.1016/j.lindif.2018.11.002

Tipton, R.M., & Wortinton, E.L. (1984) The measurement of generalized self-efficacy: a study of construct validity. *Journal of Personality Assessment, 48*, 545–548. https://doi.org/10.1207/s15327752jpa4805_14

Vandenberg, R.J., & Lance, C.E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, *3*(1), 4–70. https://doi.org/10.1177/109442810031002

Wang, Y., Yao, L., Liu, L., Yang, X., Wu, H., Wang, J., & Wang, L. (2014). The mediating role of self-efficacy in the relationship between Big five personality and depressive symptoms among Chinese unemployed population: a cross-sectional study. *BMC psychiatry*, *14*(1), Article 61. https://doi.org/10.1186/1471-244X-14-61

Whitley, B.E. (1998). Factors associated with cheating among college students: A review. *Research in Higher Education*, *39*(3), 235–274. https://doi.org/10.1023/A:1018724900565

Zawadzka, S.A., Kościelniak, M., & Zalewska, A.M. (2018). The big five and burnout among teachers: the moderating and mediating role of self-efficacy. *Polish Psychological Bulletin*, *49*(2), 149–157. https://doi.org/10.24425/119482

Zhou, M. (2016). A revisit of General Self-Efficacy Scale: uni- or multi-dimensional? *Current Psychology*, *35*(3), 427–436. https://doi.org/10.1007/s12144-015-9311-4

Zięba, M., Surawska, M., & Zalewska, A.M. (2018). Relationships between personality traits, general self-efficacy, self-esteem, subjective well-being, and entrepreneurial activity. *Polish Psychological Bulletin*, *49*(2), 131–140. https://doi.org/10.24425/119480

Yang, S.C., Huang, C.L., & Chen, A.S. (2013). An investigation of college students' perceptions of academic dishonesty, reasons for dishonesty, achievement goals, and willingness to report dishonest behavior. *Ethics & Behavior, 23*(6), 501–522. https://doi.org/10.1080/10508422.2013.802651

Yao, Y., Zhao, S., Gao, X., An, Z., Wang, S., Li, H., Ly, Y., Gao, L., Lu, L., & Dong, Z. (2018). General self-efficacy modifies the effect of stress on burnout in nurses with different personality types. *BMC Health Services Research*, *18*(1), Article 667. https://doi.org/10.1186/s12913-018-3478-y

# RELATIONSHIP BELIEFS AND COMPATIBILITY PREFERENCES IN ROMANTIC PARTNERS

https://doi.org/10.21697/sp.2023.23.1.03

ALESSIA **MARCHI**[1], PETER K. **JONASON**[1,2]
[1] University of Padua, Italy
[2] University of Cardinal Stefan Wyszyński, Poland

## ABSTRACT

Recently, we identified 24 factors (e.g., appearance, conformity) that may capture whether people want to be similar or different from their sexual and romantic partners on different qualities in 274 ($n_{Women}$ = 225) Italians (Marchi et al., 2023; *Personality and Individual Differences*). Here we reanalyzed that data, turning to relationship beliefs we also assessed. Participants believed similarity was more important than complementary in relationships but beliefs that physical attractiveness was important trumped both. However, beliefs that physical attractiveness was important were unrelated to any of the compatibility factors and complementarity beliefs were only related to three of them, while nearly two-thirds of the correlations with similarity beliefs were significant (e.g., residence, speech). We discussed our results in terms of how different generalized relationship beliefs may manifest themselves in how similar people want their romantic/sexual partners to be.

**KEYWORDS**
MATE PREFERENCES
COMPATIBILITY
COMPLEMENTARITY
SIMILARITY
ASSORTATIVE MATING
ROMANTIC RELATIONSHIPS
BELIEFS

* CORRESPONDENCE ADDRESS Corresponding author: Peter K. Jonason, University of Padua, Department of General Psychology, Via Venezia, 12, 35131 Padua PD, Italy, or email: peterkarl.jonason@unipd.it.

## INTRODUCTION

While the question of what people want in relationships reaches back at least to Freud (Jones, 1953) when he asked what a woman wanted, research attempting to answer this question(s) has focused more on the features that people want or not in their romantic or sexual partners (Csajbók et al., 2023; Jach et al., 2022) as opposed to the qualities shared between the pair which may influence compatibility (Marchi et al., 2023). Whether two people are compatible will influence rates of marital discord and may even increase reproductive fitness (Dijkstra & Barelds, 2008; Wu et al., 2020): thus, it seems like an important, albeit neglected, area of research. We recently identified 24 features that may define the relationship compatibility space, but we focused on factor analyses and love styles (Marchi et al., 2023) while the beliefs people have a about relationships may also be informative.

In this study, we focus on three relationship beliefs. First, we consider the belief that "opposites attract" or the complementarity hypothesis (Kirkpatrick & Davis, 1994). While there is limited evidence about this belief promoting relationship success, people continue to believe it (Vohs et al., 2011). It is possible that differences are valued in short-term relationships as opposed to long-term ones because it may increase excitement and drama but most research focuses only on serious relationships. Second, we consider beliefs that "birds of a feather flock together" or the similarity hypothesis (Luo, 2017). This should be the more common belief relative to complementarity beliefs because (1) is fits better with common sense predictions and (2) predicts desirable relationship outcomes, at least in long-term relationships (Wu et al., 2020). And last, we also consider beliefs about how important physical attractiveness is in relationships. Despite some protestations, physical attractiveness is the first factor that operates in mate selection; acting as a threshold trait (March & Jonason, 2023). If so, beliefs about the importance of physical attractiveness should be stronger than the others but the preference for physical attractiveness is likely orthogonal to compatibility (Jonason & March, 2022).

In this study, we add to our recent research on compatibility in sexual/romantic mate preferences. We contend that people have beliefs about relationships which may be related to how similar or different they want their partners to be on 24 different compatibility metrics. We explore how these patterns may differ in those who were single as compared to those in committed relationships and long-/short-term nature of the relationship being considered.

## METHOD

### PARTICIPANTS & PROCEDURE

Our analyses relied on 274 participants (49 men, 225 women), aged 19 to 64 years old ($M$ = 27.89, $SD$ = 8.39), mostly heterosexual (84%) in committed relationships (62%). They proceeded through a standard, online self-report study that was approved by the Ethical Committee for Psychological Research at the University of Padua (#4500). Data can be found on the Open Science Framework.[1]

1 Data is available at https://osf.io/w9p2n/

Dagna Kocur, Łukasz Jach, Magdalena Berek-Zamorska, Paulina Kamińska, I have self-compassion so I feel sexy! Sexual satisfaction and self-compassion effects on self-esteem and body esteem.
*Studia Psychologica: Theoria et Praxis*, 23(1), 5–16.
https://doi.org/10.21697/sp.2023.23.1.01

## MEASURES

Participants were provided an *ad hoc* list of 153 items, that were reduced to 24 factors, describing the preference (1 = *very different*; 7 = *very similar*) they had in a long-term ($n$ = 152) or short-term ($n$ = 122) relationship toward an ideal partner. The scales had moderate-to-good internal consistency as measured with correlations for two-item factors ($r$s = .24 to .73) and multi-item factors (Cronbach's αs = .56 to .82) and captured aspects of compatibility like emotions, sociality, opinions, and origins.

To test the role of lay beliefs in romantic relationships, we created three items. To measure the importance people placed in the compatibility in romantic and sexual relationships, we asked participants how much they believed opposites attract and people who are similar are best suited (1 = *not at all*; 5 = *very much*). To measure the centrality of physical attractiveness in who people think form couples, participants rated how important they believed physical attractiveness to be (1 = *not important at all*; 5 = *very important*). Complementarity beliefs were positively correlated with perceived physical attractiveness centrality ($r$[274] = .15, $p$ = .01) but negatively with similarity beliefs ($r$[274] = -.28, $p$ < .001). Similarity beliefs did not correlate with perceived physical attractiveness ($r$[274] = -.02, $p$ = .79).

## RESULTS

Our sample had few men, we ignored sex differences/moderations and instead, focused on a 2 (relationship status) × 2 (relationship context) × 3 (lay beliefs) mixed model ANOVA. A main effect for lay beliefs ($F$[2, 270] = 101.99, $p$ < .001, $\eta_p^2$ = .03) suggested that participants believed that similar individuals are better suited ($M$ = 2.53, $SD$ = 0.73) more ($p$ < .001) than they believed that opposites attract ($M$ = 1.71, $SD$ = 0.90) but less ($p$ = .04) than they perceived physical attractiveness was central ($M$ = 2.67, $SD$ = 0.77). In addition, we tentatively found ($F$[1, 270] = 3.33, $p$ = .07, $\eta_p^2$ = .01) that single participants ($M$ = 2.35, $SD$ = 0.90) had slightly stronger ($p$ = .07) lay beliefs than those in a relationship ($M$ = 2.25, $SD$ = 0.91).

We then correlated the three lay beliefs with the compatibility indexes (Table 1). Overall, we found no correlations for beliefs about the importance of physical attractiveness and only three for complementarity beliefs. Participants who believed that opposites attract perceived a partner as compatible when different from them in lifestyle, intellect, and activity. In contrast we found 15 (63%) positive correlations for similarity beliefs with, for instance, opinions, emotions, and romanticism.

We found few cases of moderation (Fisher's $z$) of these correlations by relationship context and relationship status ($p$s ≤ .05).[2] The belief that physical attractiveness is central was stronger in the short-term ($r$[122] = .16, $p$ = .04) than in the long-term context ($r$[152] = -.15, $p$ = .04) among those preferring a similar partner in opinions ($z$ = -2.54), and in the short-term ($r$[122] = .14, $p$ = .06) than in the long-term context ($r$[152] = -.12, $p$ = .07) among those preferring a similar partner in sociality ($z$ = -2.13). The same belief was also stronger in the short-term ($r$[122] = .21, $p$ = .01) than in the long-term context ($r$[152] = -.08, $p$ = .17) among those preferring a similar partner in class ($z$ = -2.39), and in the short-term ($r$[122] = .16, $p$ = .04) than in the long-term context ($r$[152] = -.14, $p$ = .05) among those preferring a similar partner in empathy ($z$ = -2.46). The belief that opposites attract was stronger ($z$ = 2.47) in the long-term ($r$[152] = .21, $p$ = .01) than in the short-term context ($r$[122] = -.09, $p$ = .17) among those preferring a similar partner in morale, but it was weaker ($z$ = -2.73) in the long-term ($r$[152] = -.25, $p$ = .001) than in the short-term context ($r$[122] = .08, $p$ = .18) among those preferring a similar partner in activity. Turning to moderation

2 All the moderated correlations are on the OSF site for this study.

Alessia Marchi, Peter K. Jonason, Relationship beliefs and compatibility preferences in romantic partners. *Studia Psychologica: Theoria et Praxis*, 22(1), 33–39.
https://doi.org/10.21697/sp.2023.23.1.03

**Table 1. Correlations between the 24 ways to be compatible and beliefs about the importance of physical attractiveness (PA) and attraction of opposite/similar individuals**

| Index | PA | Opposite | Similar |
|---|---|---|---|
| Lifestyle | .01 | -.14* | .15** |
| Opinions | .10 | -.06 | .24** |
| Emotions | .07 | -.02 | .12* |
| Origins | -.04 | -.09 | .04 |
| Sociality | -.01 | -.05 | .11* |
| Romanticism | .04 | -.07 | .15* |
| Morale | -.03 | .06 | .05 |
| Family | .04 | .06 | -.05 |
| Food | .02 | .03 | .01 |
| Sensation | <.01 | -.09 | .10* |
| Class | .03 | -.07 | .18** |
| Religion | -.02 | -.08 | .09 |
| Conformity | -.09 | -.01 | .13* |
| Leisure | <.01 | -.01 | .15** |
| Appearance | .08 | -.09 | .06 |
| Job | .05 | -.03 | .11* |
| Conflict | .01 | -.08 | .07 |
| Empathy | -.01 | -.06 | .11* |
| Humor | <.01 | -.02 | .10 |
| Residence | -.09 | -.02 | .12* |
| Speech | <.01 | -.02 | .13* |
| Intellect | -.08 | -.24** | .22** |
| Enthusiasm | -.07 | -.03 | .18** |
| Activity | -.01 | -.10* | .08 |

*Note*. Correlations are uncorrected.

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

by relationship status, among participants preferring a similar partner in residence, those who were single ($r$[172] = .12, $p$ = .05) compared to those who were in a relationship ($r$[168] = -.11, $p$ = .08) differed in the belief that opposites attract ($z$ = 1.84).

## DISCUSSION

What people believe about relationships should be related to their mate preferences, including how similar they want their romantic or sexual partners to be. However, there is alarmingly little research on compatibility let alone in relation to relationship beliefs. Importantly, we provided strong evidence that people think being similar is more important than being different or complementary and that it is the former that affects patterns in preferences for compatible partners. In our study the belief that physical attractiveness is central was the strongest relationship belief, but it did not correlate with any of the 24 factors of compatibility. The belief that opposites attract was the weakest and it correlated with preference for a partner who differed in lifestyle, intellect, and activity.

On the other hand, the belief that similar individuals are better suited correlated with preference for a similar partner in multiple factors. Participants who supported this belief preferred a partner like them in factors concerning the emotional sphere (e.g., emotions, romanticism, enthusiasm, and empathy), social values (e.g., opinions and conformity), practical life details (e.g., lifestyle, class, leisure, job, and residence), and personal features (e.g.,

sociality, speech, and intellect). People who believe in similarity might prefer a similar partner in social values, emotions, and personal features both because they are positive feedback on their vision of the world and common grounds for conversation and mutual understanding (Baxter & West, 2003). Moreover, they might prefer a similar partner in practical life details because it facilitates life sharing and increases chances of doing things together (Kalmijn, 1994). Surprisingly, participants did not prefer similarity for morals and religion, but they do for comparable factors such as opinions and conformity. Those who preferred similarity in opinions, sociality, class, and empathy perceived physical attractiveness more central only when in the short-term context. People's relationship beliefs might become stronger depending on the specific relationship context.

## LIMITATIONS & CONCLUSIONS

As a secondary use of this data, we will not repeat, at length, the limitations of this data like the WEIRD sample, the new compatibility factors not having been tested fully, the female-biased nature of the sample, and internal consistency concerns. Instead, we draw attention to the limitations of this specific study. First, we only used single-item measures of relationship beliefs. While they can be trusted for narrow-band constructs that are not subject to high levels of social desirability biases or self-knowledge short-comings, more psychometrically robust measures are preferable. Second, these three beliefs surely do not represent the full range of lay beliefs about relationships. For instance, beliefs about destiny, love at first sight, and the centrality of sexual desires may be worth investigating. Third, we found only three correlations with complementarity beliefs which might be an artifact of range restriction given how people overwhelmingly think similarity and attractiveness are more important. Fourth, it seems reasonable that different societies would have different relationship beliefs given the culture of love found therein (Goodwin & Gaines, 2004) which could then lead to different mate preferences in compatibility. Lastly, the high number of correlations might result in Type I error inflation. Future studies should use a higher statistical power.

In sum, we focused on one of the most under-researched areas of mate preference: compatibility. First, we compared beliefs in three relationship beliefs revealing that (1) people especially think physical attractiveness matters but (2) they agreed that similarity was more important than complementarity in their relationship partners. Second, we tracked how these relationship beliefs were correlated with how desirable people thought hypothetical long-term and short-term partners might be when characterized by 24 different features that may define the compatibility space (Marchi et al., 2023). Overwhelmingly, beliefs that "birds of a feather flock together" were correlated with many preferences in compatible partners. Future studies could also examine actual experience of compatibility within existing relationships.

Authors' notes: The second author is supported by the Czech Science Foundation grant (23-05379S) and was partially funded by a grant from the National Science Center of Poland (2019/35/B/HS6/00682).

## REFERENCES


Baxter, L.A., & West, L. (2003). Couple perceptions of their similarities and differences: A dialectical perspective. *Journal of Social and Personal Relationships*, *20*, 491-514.

Csajbók, Z., White, K.P., & Jonason, P.K. (2023). Six "red flags" in relationships: From being dangerous to gross and being apathetic to unmotivated. *Personality and Individual Differences, 204*, 112048.

Dijkstra, P., & Barelds, D.P. (2008). Do people know what they want?: A similar or complementary partner? *Evolutionary Psychology*, *6*, 595-602.

Goodwin, R., & Gaines Jr, S.O. (2004). Relationships beliefs and relationship quality across cultures: Country as a moderator of dysfunctional beliefs and relationship quality in three former communist societies. *Personal Relationships*, *11*, 267-279.

Jach, Ł., Kubicius, D., & Jonason, P.K. (2022). "Do they fit together like the Joker and Harley Quinn?": Joking, laughing, humor styles, and dyadic adjustment among people in long-term romantic relationships. *Personality and Individual Differences*, *199*, 111859.

Jonason, P.K., & March, E. (2023). The three C's of psychological mate preferences: The psychological traits people want in their romantic and sexual partners. In J.K. Mogilski & T.K. Shackelford (Eds.), *The Oxford handbook of evolutionary psychology and romantic relationships*. Oxford.

Jones, E. (1953). *Sigmund Freud: Life and work* (Vol. 2). Hogarth Press.

Kalmijn, M. (1994). Assortative mating by cultural and economic occupational status. *American journal of Sociology*, *100*, 422-452.

Kirkpatrick, L.A., & Davis, K.E. (1994). Attachment style, gender, and relationship stability: A longitudinal analysis. *Journal of Personality and Social Psychology*, *66*, 502-512.

Luo, S. (2017). Assortative mating and couple similarity: Patterns, mechanisms, and consequences. *Social and Personality Psychology Compass*, *11*, 1-14.

March, E., & Jonason, P.K. (2023). What properties predict mate choice: Physical, psychological, and place. In A.D. Lykins (ed.) *Encyclopedia of sexuality and gender*. Springer.

Marchi, A., Csajbók, Z., & Jonason, P.K. (2023). 24 ways to be compatible with your relationship partners: Sex differences, context effects, and love styles. *Personality and Individual Differences, 206*, 112134.

Vohs, K.D., Finkenauer, C., & Baumeister, R.F. (2011). The sum of friends' and lovers' self-control scores predicts relationship quality. *Social Psychological and Personality Science*, *2*, 138-145.

Wu, R., Liu, Z., Guo, Q., Cai, M., & Zhou, J. (2020). Couple similarity on personality, moral identity and spirituality predict life satisfaction of spouses and their offspring. *Journal of Happiness Studies*, *21*, 1037-1058.