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Development and validation of a measure of cognitive and behavioural social self-efficacy

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ABSTRACT

Although social self-efficacy appears influential across a broad spectrum of human behaviour, existing adult measures of social self-efficacy have conceptual and psychometric limitations. The current research brought together the realms of trait social intelligence and self-efficacy to develop and evaluate a measure of social self-efficacy which for the first time included assessment of cognitive domains of social self-efficacy. Items were administered to 301 participants, along with measures of general self-efficacy, subjective wellbeing, social anxiety, depression, general anxiety, and stress. An exploratory factor analysis (Maximum Likelihood with Direct Oblimin extraction) revealed two interpretable factors that were labeled "Social Understanding Self-efficacy" (cognitive) and "Social Skill Self-efficacy" (behavioural). Construct and criterion validity were evident and internal consistency and test–retest reliability were good. It was concluded that the new 18-item measure has sound psychometric properties. As such, this measure may serve as a meaningful tool for researchers and clinicians. While theoretical and empirical frameworks informed the current research, given the exploratory nature of this study, future research should further investigate the psychometric properties of this measure using confirmatory factor analysis and by examining the predictive validity of this measure in a clinical context.

1. Introduction

While social self-efficacy has considerable clinical relevance (Thomasson & Psouni, 2010), reviews of existing social self-efficacy scales note limitations with conceptualisation and measurement of the construct (Fan, Meng, Zhao, & Patel, 2012; Gaudiano & Herbert, 2003; Smith & Betz, 2000). The current study aimed to develop and provide initial psychometric validation for a new self-report measure of cognitive and behavioural social self-efficacy, with the goal of improving operationalisation of the measurement of confidence to perform in the social realm.

1.1. Social self-efficacy

Although no unitary definition exists (Smith & Betz, 2000), social self-efficacy is typically conceptualised as one's perceived skill and confidence in social situations (e.g., Caprara & Steca, 2005). Even though the perception of one's ability to perform well in a given task is distinct from one's actual ability to perform that task, efficacy beliefs can have a pervasive effect on performance and adaptive psychosocial functioning (Maciejewski, Prigerson, & Mazure, 2000). In any context where interpersonal exchange occurs, people will vary in their perceived ability to successfully engage in social environments, thereby influencing interpersonal outcomes (Mallinckrodt & Wei, 2005; Segrin & Taylor, 2007; Wei, Russell, & Zakalik, 2005). Individuals with low social self-efficacy typically overemphasise personal deficiencies in social situations, leading to feelings of helplessness, negative social expectations and maladaptive social behaviours (Wei et al., 2005), and orientations towards social competence are related to positive emotions (Shim, Wang, & Cassady, 2013). Given the pervasive influence of social self-efficacy in one's life, sound assessment of the construct may play an important role in understanding and predicting psychosocial functioning.

1.2. Measures of social self-efficacy

Reviews of older social self-efficacy scales (Gaudiano & Herbert, 2003; Smith & Betz, 2000) have noted that many scales are psychometrically problematic, with problems replicating factor structures, inconsistent predictive and content validity, and poor internal consistency. Furthermore, some social self-efficacy scales have used standard Likert-style scales with anchors *strongly disagree–strongly agree* (e.g., Sherer et al., 1982). Smith and Betz (2000) argued that using this scale response format may fail to

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capture the self-evaluative nature of this construct. In line with this, Bandura (2006) has proposed that anchors *not at all confident–very confident* are typically more appropriate for self-efficacy scales.

Smith and Betz (2000) developed the Scale of Perceived Social Self-Efficacy. Although showing excellent internal consistency and good test–retest reliability (Smith & Betz), this measure targets general social behaviours, and does not provide insight into other domains of social functioning and social self-efficacy.

1.3. Cognitive domains of social self-efficacy

While measures such as Smith and Betz's (2000) consider beliefs pertaining to behavioural aspects of social exchange, cognitive processes such as social information processing also underpin social functioning (Petrides, Mason, & Sevdalis, 2011; Ziv, 2013). Social information processing refers to one's ability to accurately understand and predict social situations (Ziv, 2013). Social information processing can influence how a person interacts with others, as people typically make inferences about others based on socially laden information (Petrides et al., 2011; Ziv, 2013). It would thus seem that including assessment of the cognitive aspect of social self-efficacy may add insight into the construct.

1.4. The current research

In summary, as social self-efficacy can impact on an individual's functioning (Wei et al., 2005), accurate assessment of the construct is important. However, existing operationalisations of social self-efficacy do not typically assess cognitive aspects of social self-efficacy. The current study attempted to address this limitation by developing and providing preliminary validation of a social self-efficacy scale which assesses perceptions related to both behavioural and cognitive aspects of social interaction.

In order to achieve this, we drew on social intelligence research to inform the development of cognitive social self-efficacy items. Social intelligence refers to individual differences concerning the relative success people experience in social situations and interpersonal relationships (Kihlstrom & Cantor, 2011). Given the similarities between emotional and social intelligence, it has been suggested that models of social intelligence might parallel the trait-ability approach to emotional intelligence (Grieve & Mahar, 2013). Trait emotional intelligence encompasses emotion-related self-perception (Petrides, Pita, & Kokkinaki, 2007), thus trait social intelligence might encompass social self-perceptions. Drawing on the work of Kirk, Schutte, and Hine (2008), Grieve and Mahar (2013) suggested a paradigm linking social self-efficacy to trait (i.e., self-report), rather than ability social intelligence, and proposed that existing self-report measures such as the Tromsø Social Intelligence Scale (Silvera, Martinussen, & Dahl, 2001) could form the basis of a social self-efficacy measure.

The overall goal of the current research was to develop and provide initial psychometric validation for a self-report measure of social self-efficacy. Following item development, the latent factor structure of the items was assessed using exploratory factor analysis, as no a priori model was identified (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Convergent and criterion validity were also examined via correlations with general self-efficacy, social anxiety, subjective wellbeing and psychological distress (depression, general anxiety, and stress). It was anticipated that social self-efficacy would be positively correlated with general self-efficacy (though not to the point of redundancy). Predictions were in line with previous research suggesting that low self-efficacy is linked to poor life satisfaction (Caprara & Steca, 2005; Weber, Ruch, Littman-Ovadia, Lavy, & Gai, 2013) depression (Wei et al., 2005), and social anxiety (Gaudiano & Herbert, 2003; Thomasson & Psouni, 2010). Finally, internal consistency and test–retest reliability was assessed.

1.4.1. Item development

In line with suggestions outlined by Grieve and Mahar (2013), the Tromsø Social Intelligence Scale (Silvera et al., 2001) was amended to reflect a measure of social self-efficacy. While many measures of social intelligence are conceptually and psychometrically problematic, the Tromsø scale consists of 21 self-report items measuring the domains of social information processing, social skills, and social awareness, with a clear factor structure and good psychometric properties (Grieve & Mahar, 2013). Due to the scale's multidimensional nature (Silvera et al.), it was envisaged that items from the social information processing and social awareness subscales, once adapted, would provide promising means to capture cognitive aspects of social self-efficacy.

Based on Bandura's (2006) recommendations for the development of items measuring self-efficacy, instructions were updated, items were refined, and scale anchors were adjusted to reflect self-efficacy in the social realm, and to tap into the self-evaluative nature of this construct. For example, in the original measure, a social skills item is: *I am good at entering new situations and meeting people for the first time*, with participants asked to indicate the extent to which they agree or disagree with that statement using a Likert response scale. However, in the revised measure, instructions asked participants to "Rate your confidence in your ability to" *Enter situations and meet people for the first time*, with response options, 1 = *not at all confident*; 5 = *very confident*. Revised instructions, items and scale anchors were developed by the first and second authors, and were then reviewed by an independent panel of experienced researchers for readability, comparability, and face validity.

2. Method

2.1. Participants

The total sample consisted of 301 participants who completed the social self-efficacy items for factor analysis (43 male, 258 female; Mean age = 25.22, SD = 9.12). Of these, 289 participants (39 male, 250 female; Mean age = 25.13, SD = 9.07) also completed measures to assess construct and criterion validity. A separate sample (2 male, 11 female; Mean age = 27.85, SD = 11.98) was used to assess test–retest reliability.

2.2. Design

The current research consists of two parts. The first element of this study reflects a cross-sectional design. An exploratory factor analysis using Maximum Likelihood extraction and oblique rotation (Direct Oblimin) examined the latent factor structure of the social self-efficacy items. Construct and criterion validity were assessed by considering bivariate correlations with general self-efficacy, subjective wellbeing, social anxiety, depression, general anxiety, and stress. The second element of this study was a longitudinal design. A two week interval separated Time 1 and Time 2, to assess the test–retest reliability of the scale.

2.3. Materials

2.3.1. Social self-efficacy

Social self-efficacy was measured using the pool of items described above. Self-reported responses were given for 21 items with participants asked to rate their confidence in their social ability, where 1 = *not at all confident* and 5 = *very confident*. A sample