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Self-concept clarity is associated with social decision making performance

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ABSTRACT

We investigate a novel link between self-concept clarity and social decision making performance. Drawing on theories of goal pursuit and the self, we posit that self-concept clarity, a concept combining the organization and accessibility of self-related memory representations, can be linked to better decision making performance in situations involving the self. Two preregistered studies assessed the relationship between self-concept clarity and social decision making performance and observed substantial, positive relationships. These relationships could not be accounted for by measures of processing speed or social preferences, suggesting a direct link between self-concept clarity and decision performance in a social context. We conclude by discussing how this novel finding may share a common pathway with other, established links between self-concept clarity and decision performance.

Keywords: Self-concept clarity, Social decision making, Cognitive performance

1. Introduction

In the dialogue of Socrates and Alcibiades, the Athenian statesman, Socrates recommends Alcibiades to follow the Delphian maxim of *gnōthi seautoun*, to *know thyself*, to be a good governor. He argues successful statesmen must understand their own characteristics and desires in order to understand the affairs of the state and to make wise decisions. Thus, following Socrates, our ability to introspect the representation of oneself might be linked to our ability to navigate in social life and make decisions for oneself and others.

A meta-cognitive view on self-perception has gained widespread attention in psychological research under the label of self-concept clarity, which is defined as “the extent to which the contents of an individual's self-concept (e.g., perceived personal attributes) are clearly and confidently defined, internally consistent, and temporally stable” (SCC; Campbell et al., 1996, p. 141). Evidence suggests that high self-concept clarity is advantageous for individuals (e.g., Campbell, 1990; Campbell et al., 1996; see Lodi-Smith & Crocetti, 2017, for a review): Feeling confident and clear about self-concept has been associated with lower anxiety (Stopa et al., 2010), greater well-being (Ritchie et al., 2011), and greater purpose and meaning in life (Bigler et al., 2001). In line with Socrates, research also suggests links between self-concept clarity and decision making: Differences in self-concept clarity have been associated with differences in decision strategies (Setterlund & Niedenthal, 1993) and decision satisfaction (Mittal, 2015).

In this article, we extend this work by investigating whether self-concept clarity might be associated with performance in decisions involving self and others. To this end, we draw on Light (2017)'s model of the role of self-concept clarity in goal pursuit, as well as the

notion of self-other confusability. We will describe both of these in turn before we present the current studies.

1.1 Self-concept clarity and goal pursuit

Light (2017) proposed a model linking self-concept clarity and goal pursuit that can help us understand the role of self-concept clarity in decision making about the self. This model distinguishes the role selfconcept in goal pursuit in three phases (i.e., pre-decisional, post-decisional pre-actional, and actional phases; see Heckhausen & Gollwitzer, 1987) and suggests that self-concept clarity may act as a moderator. According to the model, in the pre-decisional phase, the individual evaluates possible self-relevant goals and adopts a goal among the alternatives (“what do I want to do?”). In this phase, the self-concept may act as a guide for selecting a goal that is concordant with the current self (e.g., Fryberg et al., 2008) or an imagined future one (Markus & Nurius, 1987). After the goal has been selected, in the post-decisional/pre-actional phase, the individual considers how to implement the goal and evaluates their strengths and weaknesses with respect to achieving it (“how can I do what I want to do?”). In this phase, the self-concept may play a role in the search for accurate, self-related information to pursue the goal. Finally, in the actional phase, the individual takes direct action to pursue the goal (“can I take action to do what I want to do?”). In this phase, the self-concept may determine the level of motivation and effort exerted, to the extent that current state of the self is discrepant with the goal (e.g., Duval & Wicklund, 1972; Higgins, 1987). The proposed role of self-concept clarity in goal pursuit, as laid out in Light's model, is that of a moderator for successful goal pursuit, such that a consistent, stable, and clear self-concept may foster goal pursuit whereas an inconsistent, unstable, and unclear self-concept may undermine

it. There has been some empirical work supporting this proposal in the pre-decisional (“what do I want to do?”) and actional (“can I take action to do what I want to do?”) phases. Specifically, high self-concept clarity has been found to help people rely on their self-concept to guide choice behavior (Setterlund & Niedenthal, 1993) and has been linked to more effort to put long-term goals into action (Fite et al., 2017). However, there is no empirical evidence on the supposed link between self-concept clarity and goal pursuit in the post-decisional/pre-actional phase (“how can I do what I want to do?”).

1.2. Self-other confusion and self-concept clarity and social decisions

There is a general agreement on viewing the self as a collection of attributes/qualities such as goals (e.g., Higgins, 1987), roles (e.g., Roberts & Donahue, 1994), and relational and collective identities (e.g., Brewer & Gardner, 1996) within a large, intricate network of associations (Banks, 2017; Decety & Sommerville, 2003). Like other psychological evaluations, our assessment of the self is relativistic and depends on some kind of frame of reference. Frequently, this frame of reference is other people (Decety & Sommerville, 2003; Festinger, 1954). Evidence shows that information about other people directly influences a person's self-evaluation (e.g., Buckingham & Alicke, 2002). However, the role of others in the self goes beyond mere social comparisons. As they are attended to, for instance, during social comparisons, the characteristics of others become not only represented in our mind, but potentially also difficult to discriminate from the representation of oneself. For instance, research has shown that individuals readily confuse attitudes of intimate and in-group others (Coats et al., 2000). Specifically, research suggests that the interests of close people are also represented in one's own mind, which can result in difficulties discriminating between one's

own interests and those of the other (Aron et al., 1991; Uğurlar et al., 2021b). The self-expansion model (Aron et al., 2013; Aron & Aron, 1986) posits that in a close relationship, people experience the other's resources, perspectives, and traits as one's own, or in other words, the other is included in the self. As a result, self-other confusion may impede a person's ability to process and integrate the interests in social decision making situations.

Yet not everyone might be equally prone to self-other confusion. Self-concept clarity (Campbell et al., 1996) likely helps keeping mental representation of self and that of others separate. Indeed, a recent study demonstrated a link between self-concept clarity and self-other merging (Krol & Bartz, 2021). In this study, the researchers measured self-other overlap in perceived attributes (i.e., the overlap between participants' rating of the extent to which some personality attributes were descriptive of them and then of another person) and the perceived closeness dimension of self-other merging (i.e., Inclusion of the Other in the Self (IOS) Scale (Aron et al., 1992) that presented participants with seven pictures of two increasing overlapping circles, one of which represented the self and the other represented another person). The results of both measures showed that individuals with high self-concept clarity experienced less overlap between themselves and others. This suggests that self-concept clarity may be linked to the capacity to make decisions in social situations that require a disassociation between self and others. Considering that self-concept clarity is associated with low self-other overlap (Krol & Bartz, 2021), individuals with high compared to low self-concept clarity could perform better in social decisions that incorporate self-relevant and other-relevant information and require individuals to disentangle between these two types of information.

1.3. The aim of the study

In the current article, we seek to extend past work on the role of self-concept clarity in goal pursuit, by investigating the role of self-concept clarity in a social decision making task. Based on the work reviewed above, we expected that people with high self-concept clarity would be better at detecting options that satisfy predefined goals in social decisions, as higher self-concept clarity should assist them in obtaining goal relevant information and guard them against confusing one's own goals with those of (close) others (e.g., Krol & Bartz, 2021). We conducted two preregistered studies, in which we presented participants with a hypothetical two-person economic game that asked them to recognize options that satisfied either an altruistic or a self-interested goal. In this game, participants were presented with several splits of self-relevant and other-relevant outcomes and were tasked to select the split that satisfied the instructed goal. We predicted that people with high self-concept clarity would be better at selecting the correct split and that this link would be significant for both types of goals (i.e., altruistic and self-interested goals).

2. Study 1

Study 1 tested the link between decision making performance and three self-concept clarity (SCC) measures: The SCC scale (Campbell et al., 1996), consistency in the me-not me task (Campbell, 1990), and response times in a Big Five personality questionnaire. We computed three additional SCC measures in the me-not me task (Campbell, 1990): The time taken to judge the adjectives in the me-not me task, confidence in self-judgments, and the time taken to rate confidence. We assessed decision making performance using the Me/Other Game (cf. Uğurlar et al., 2021a), which required participants to identify a correct option that satisfied a redefined,

self- or other-serving goal. We expected decision making performance to be associated with higher consistency and higher confidence in self-judgments, and shorter response times when assessing the relevance of traits to the self.

2.1. Method

2.1.1. Participants

Three hundred and fifty-one U.S.-based participants (women = 157, men = 192, other = 2), recruited through Amazon Mechanical Turk (MTurk), completed the study. The ages of participants ranged from 19 to 73 ($M = 35.74$; $SD = 10.66$). This sample size enabled the detection of small effects ($r = .15$) with at least 80 % power. Participants completed an online informed consent form and were monetarily compensated (\$2.00) for their participation in the study. We preregistered the design, sample size, hypothesis, and planned analysis (<https://osf.io/57xhs/>). All data and the analysis scripts openly available (<https://osf.io/usrx2>).

2.1.2. Procedure

Participants first completed two rounds of the self- and other-relevant decision making task (i.e., the me/other game), in counterbalanced order, and three self-concept clarity measures: The SCC scale (Campbell et al., 1996), consistency in the me-not me task (Campbell, 1990), and response times in a Big Five personality (Big5) questionnaire. Finally, participants responded to a series of demographic questions and an open question about further comments on the study. At the end, we provided them with a completion code that would enable them to receive their compensation.

2.1.2.1. Me/other game. We adapted a hypothetical dictator game, which consists of resource allocation decisions involving oneself and a hypothetical other person, to measure decision

performance (cf. Uğurlar et al., 2021a). In typical dictator games (see Engel, 2011) any amount allocated to the other person diminishes one's own payoff, rendering the allocated amount a measure of social preferences. As our focus is ability, rather than preference, we adapted the task by providing participants with an explicit goal and selected money splits that made the identification of the correct solution more difficult. In our task, participants were first asked to enter the initials of a person they considered as closest to themselves to serve as the hypothetical other person. In each trial, participants were then presented with six resource allocation options, each offering one payoff for themselves and one for the close other (e.g., option 1 offers a payoff of \$12 to the participant and a payoff of \$9 to the other person, option 2 offers \$9 to the participant and \$16 to the other person, see Fig. 1). The task of the participant was to identify within 5 s the option that satisfied the instructed decision rule (i.e., goal): (a) the self-interested rule, or (b) the altruistic rule. The self-interested rule asked participants to identify the option that simultaneously maximized their payoff and minimized the other person's payoff. The altruistic rule asked participants to identify the option that simultaneously minimized their payoff and maximized the other person's payoff. After two practice trials, participants played the game in two counterbalanced rounds and completed 30 trials for each decision rule (i.e., for each round), where each trial contained a single option that fully satisfied the respective rule. We evaluated the total number of accurate choices.

Which option is correct?

Me 12 – Other 9
Me 9 – Other 16
Other 12 – Me 15
Me 16 – Other 15
Other 16 – Me 11
Me 16 – Other 9

Fig. 1. Example of a trail in the me/other game.

Note. The second option is the correct solution when the goal is to satisfy the altruistic rule, whereas the sixth option would be the correct solution when the goal is to satisfy the self-interested rule.

2.1.2.2. Me - not me task (MNM). Following the procedure of Campbell (1990), participants evaluated a set of 50 adjectives composed of bipolar pairs (e.g., kind–cruel or tense–relaxed; see Supplemental Material). Presented with one adjective at a time, participants were instructed to judge whether the adjective was an accurate description of their self or not by pressing the “Me” or “Not Me” buttons on the screen. From these judgments, self-concept clarity was computed as the consistency across bipolar pairs. When participants responded “Me” to one of the adjectives and “Not Me” to the other adjective in a pair, the consistency score for that pair was recoded as “1” otherwise “0”. We then added the consistency scores of bipolar adjective pairs and computed an overall consistency score (MNM) ranging from “0” to “25”. We also recorded response latencies and decision confidence.

Decision confidence was measured with one item: “How confident are you about your answer?” After the participants evaluated each adjective (i.e., me-not me responses), they were asked to rate their confidence in their response on a 7-point Likert scale: 1 – Not confident at all, 7 – Very confident. We calculated the mean of the response latencies (in s) across the 50 me-not me judgments (MNM-RL) and the 50 decision confidence ratings (DCRL), and then log-transformed them to account for skewed response times (Ratcliff, 1993). Shorter response latencies indicated higher self-concept clarity.

Self-Concept Clarity Scale (SCCS). Participants completed the Self-Concept Clarity Scale (Campbell et al., 1996). The scale includes 12 items (e.g., “In general, I have a clear sense of who I am and what I am”) that participants evaluated on a 5-point Likert scale, 1 – Strongly disagree, 5 – Strongly agree.

Personality Scale. Participants completed a 40-item Big Five personality questionnaire (the Big Five Inventory, BFI; John et al., 1991) on a 5-point Likert scale, 1 – Disagree strongly, 5 – Agree strongly. We computed the time taken to complete the questionnaire (in s) and log-transformed the score (Big5). Following the rationale of Campbell (1990) and Boucher (2011), we expected shorter completion times to indicate higher self-concept clarity.

2.2. Results

Table 1 shows the means and standard deviations of all preregistered measures in Study 1, as well as Pearson correlations¹. Consistent with our predictions, results showed moderate to

¹ Please see Supplemental Material Section A for the descriptive statistics and correlations of all the measures in Study 1, including the pre-registered variables of the study as well as the exploratory variables (i.e., the Big Five personality traits, accuracy scores of only the altruistic decision rule trials and only self-interested rule trials). Regression analyses predicting decision accuracy by the self-concept clarity measures (SCC Scale and MNM) while controlling for Big5 Traits, gender, and age still yielded significant, positive effects of SCC on decision accuracy (see Supplemental Material Section B).

large, positive correlations between the accuracy in the me/other game and both the SCC scale ($r = .21, p < .001$) and the consistency in the me-not me task (MNM; $r = .46, p < .001$; see Table 1). The links between accuracy and self-concept clarity scores showed a similar pattern when we analyzed separately for each decision rule. The accuracy in the self-interested rule and both the SCC scale ($r = .20, p < .001$) and the MNM ($r = .42, p < .001$) were positively correlated. We found similar correlation results between the accuracy in the altruistic rule and both the SCC scale ($r = .19, p < .001$) and the MNM ($r = .44, p < .001$). Contrary to our prediction, but consistent with more recent findings (DeMarree & Bobrowski, 2017), the analysis showed a small positive correlation between accuracy and overall completion time of the Big5 questionnaire, implying that higher accuracy was associated with longer completion times.

The results of Study 1 supported our hypothesis that individuals with high self-concept clarity are better at identifying options that satisfy their own and other's goals. This correlation was significant for both types of goal (i.e., altruistic and self-interested goals), and holds true across different measures of self-concept clarity (but not MNM-RL: The response latency for the consistency of adjectives in the me-not me task). In addition to the previously established measures of SCC (Campbell, 1990; Campbell et al., 1996), in Study 1, we proposed the response latency in the Big Five personality questionnaire (Big5) as an alternative measure of SCC. Contrary to our expectation that individuals with high SCC (as measured by the SCC scale and consistency in the me-not me task) should be faster in responding to the Big Five personality questionnaire, the results showed that these individuals took more time to complete the Big Five personality questionnaire, meaning that the time taken to complete the Big Five questionnaire might be a misleading calculation as an SCC measure. One possible explanation

for this result might be a speed/accuracy trade-off while evaluating the Big Five personality questionnaire: Some people might have taken more time to be more accurate in their self-descriptions, which does not imply that they have low self-concept clarity. Therefore, in the next study, we did not include the time taken to complete the Big Five personality questionnaire in our design.

Table 1

Means, Standard Deviations, and Bivariate Correlations of the variables in Study 1

Variable	M	SD	1	2	3	4	5	6
1. Accuracy	28.07	11.36						
2. SCCS	3.72	0.94	.21***					
3. MNM	0.79	0.15	.46***	.34**				
4. DC	5.70	0.73	.12*	.35**	.39***			
5. MNM-RL	0.48	0.23	-.06	.03	.04	.05		
6. DC-RL	0.23	0.20	-.29***	-.03	-.10	-.04	.67**	
7. Big5	1.90	0.28	.16**	.17**	.36**	.14*	.36**	.29**

Note. The table shows the spearman Pearson-correlations for the pair-wise relationships between the performance in the me/other game (Accuracy), the self-concept clarity scale (SCCS), the consistency in the me-not me task (MNM), the decision confidence in the me-not me task (DC), the log transformed response latency for the consistency of adjectives in the me-not me task (MNM-RL), the response latency for the decision confidence in the me-not me task (DC-RL), and the completion time for the Big Five personality (Big5) questionnaire. Response latencies were log transformed. * $p < .05$ ** $p < .01$ *** $p < .001$

3. Study 2

Study 1 demonstrated the positive association between self-concept clarity and accuracy in the decision making task (i.e., the me/other game), which is consistent with our hypothesis of SCC driving decision making ability. However, this association can be explained by

alternative accounts. Individual differences in cognitive abilities, such as working memory capacity, are associated with selective attention and remembering goal-related information (see Broadway et al., 2010, for a review) and should facilitate overall faster and more consistent task completion. Individuals with better cognitive abilities might therefore be better at both the behavioral SCC tasks and the decision making task. A similar assumption could be made for higher motivation. In Study 2, we addressed these alternative accounts by incentivizing accurate responses in the decision task to reduce possible interpersonal variance in motivation and measured individual differences in cognitive abilities. We measured cognitive abilities using the verbal fluency task (Shao et al., 2014), which requires individuals to retrieve elements of semantic categories within a limited amount of time and captures both cognitive capacity and processing speed.

Another account that may explain the findings of Study 1 is interpersonal differences in social preferences. Research has demonstrated a positive link between self-concept clarity and cooperativeness (e.g., Bechtoldt et al., 2010). Correspondingly, in Study 1, the participants with high self-concept clarity might have cooperated more with the researchers by following the instructions thoroughly, and therefore performed better in the decision task. Additionally, the ease of engaging in altruistic or self-interested goals and, therefore, performance might vary according to social preference (Balliet et al., 2014). In Study 2, we measured social value orientation (SVO; Murphy et al., 2011), which captures interpersonal differences in social preferences when evaluating resource allocation options between oneself and another person. The SVO framework suggests that individuals may either prefer to maximize outcomes for the self without considering others' outcomes (individualism), to maximize outcomes for both the

self and others (cooperation), or to maximize the relative advantage of the self over others' outcomes (competition; Van Lange, 1999). Therefore, Study 2 ruled out interpersonal differences in social preferences using social value orientation as a potential confound.

To summarize, Study 2 aimed to replicate the findings of Study 1 using incentivized decisions to control for motivation and attention and to rule out interpersonal differences in processing speed measured using a verbal fluency task (Shao et al., 2014) and social preferences measured using social value orientation (Murphy et al., 2011) as potential confounds. Therefore, Study 2 evaluated the hypothesis that the positive link between self-concept clarity and decision performance persists after controlling for processing speed and social preferences.

3.1. Method

3.1.1. Participants

Three hundred and fifty-one U.S.-based participants (women = 166, men = 183, other = 2), recruited through Amazon Mechanical Turk, completed the study. The ages of participants ranged from 18 to 73 ($M = 37.42$; $SD = 19.60$). This sample size enabled us to detect a small effect ($r = .15$) with at least 80 % power. Participants received monetary compensation (\$2.00) for their participation in the study and a bonus payoff of up to \$0.60 could be earned based on the participants' decisions. We preregistered the design, sample size, hypothesis, and planned analysis (<https://osf.io/abn6j/>).

3.1.2. Procedure

As in Study 1, participants first completed the me/other game and two self-concept clarity measures, the SCC Scale (Campbell et al., 1996) and the me-not me task (MNM;

Campbell, 1990), in counterbalanced order. Different from Study 1, participants next completed the verbal fluency task followed by the social value orientation scale. Furthermore, in Study 2, participants received a bonus payment of \$0.01 for each accurate answer in the me/other game, thus could receive an additional payment up to \$0.60. At the end, participants responded to a series of demographic questions and an open question about further comments on the study. Finally, we provided them with a completion code that would enable them to receive their compensation.

3.1.2.1. Verbal fluency task (fluency). To control for processing speed related to retrieving contents from memory, Study 2 included a verbal fluency task (Shao et al., 2014). In this task, participants were asked to generate in 60 s either as many members of one of two categories (i.e., animals or vegetables and fruits) or words starting with one of two letters of the alphabet (i.e., “m” or “s”). The order of the four trials was counterbalanced. Participants were instructed to avoid repetitions as well as names of people or places. We computed the number of correct words generated. The total number of correct words was used as our measure of processing speed (i.e., cognitive ability).

3.1.2.2. Social value orientation (SVO). To control for social preferences,² Study 2 included the six primary questions of the SVO Slider Measure (Murphy et al., 2011). In this task, participants were paired with another anonymous, hypothetical person and were asked to make a series of resource allocation decisions between themselves and the other person. In each of the six trials, they were presented with nine allocation options (e.g., you receive: 85, other receives:

² Hypotheses concerning social preferences were not part of the preregistrations.

76) and participants marked the allocation that they preferred by clicking on the respective option. Following Murphy et al. (2011), we computed one composite SVO score per participant.

3.2. Results

Table 2 shows descriptive values and the first-order, Pearson correlations between all included measures in Study 2. Consistent with our predictions and replicating the results of Study 1, Study 2 demonstrated moderate to large, positive correlations between the incentivized accuracy in the me/other game and both the SCC scale ($r = .25, p < .001$) and the consistency in the me-not me task ($r = .44, p < .001$; see Table 2). Moreover, Study 2 showed moderate, positive correlations of verbal fluency with both the decision accuracy and consistency in the MNM task (Accuracy: $r = .24, p < .001$; MNM: $r = .20, p < .001$), but not the SCC scale ($r = .10, p = .079$). No correlations involving the social value orientation was significant.

Table 2

Means, Standard Deviations, and Bivariate Correlations of the variables in Study 2

Variable	M	SD	1	2	3	4
1. Accuracy	27.3	12.65				
2. SCCS	3.60	0.95	.25***			
3. MNM	0.78	0.19	.44***	.37***		
4. Fluency	56.32	21.66	.24**	.09	.20**	
5. SVO	0.36	0.26	.10	-.06	.09	.06

Note. The table shows the spearman Pearson-correlations for the pair-wise relationships between the performance in the me/other game (Accuracy), the self-concept clarity scale (SCCS), the consistency in the me-not me task (MNM), the performance across four verbal fluency tasks (Fluency), and the social value orientation (SVO).

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

Regression analyses predicting decision accuracy by either self-concept clarity measure while controlling for processing speed (Fluency) and social preferences (SVO) still yielded significant, positive effects of both the SCC scale, $t(347) = 4.63, p = <.001$, and the MNM task, $t(347) = 8.28, p = <.001$, on decision accuracy (see Table 3 and Table 4). Furthermore, these results were not affected by analyzing decision accuracy separately for self-interested trials (SCCS: $t(347) = 3.76, p = <.001$; MNM: $t(347) = 6.87, p = <.001$) and altruistic trials (SCCS: $t(347) = 4.79, p = <.001$; MNM: $t(347) = 8.31, p = <.001$). Consistent with our prediction, these results confirm that the relationship between decision accuracy and self-concept clarity is robust to the inclusion of processing speed and social preferences and present for both self-interested and altruistic decision goals.

Table 3

Standardized Regression Coefficients Predicting Accuracy in the Me/Other Game by SCC Scale, Verbal Fluency, and Social Value Orientation in Study 2

Variable	<i>B</i>	<i>SE</i>	<i>β</i>
Constant	7.56	3.02	
SCCS	3.12	0.67	.24***
Fluency	0.12	0.03	.21***
SVO	4.72	2.48	.10

Note. Variables: SCCS: the self-concept clarity scale, Fluency: the performance across four verbal fluency tasks, SVO: the social value orientation.

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

Table 4

Standardized Regression Coefficients Predicting Accuracy in the Me/Other Game by consistency of the Me-Not Me task, Verbal Fluency, and Social Value Orientation in Study 2

Variable	<i>B</i>	<i>SE</i>	β
Constant	0.88	2.78	
MNM	26.45	3.20	.40***
Fluency	0.09	0.03	.16**
SVO	2.33	2.34	.05

Note. Variables: MNM: the consistency in the me-not me task, Fluency: the performance across four verbal fluency tasks, SVO: the social value orientation. * $p < .05$ ** $p < .01$ *** $p < .001$

4. General discussion

In two studies, we demonstrated a positive relationship between self-concept clarity and decision making performance in a social decision context. People with high self-concept clarity were better at identifying resources that satisfy their own as well as another person's goals.

This relationship persisted for both self-interested and altruistic goals (Studies 1 & 2), was independent of processing speed or social preferences (Study 2), and held true across different measures of self-concept clarity (Studies 1 & 2). The strength of this relationship was similar between Studies 1 and 2, suggesting a reliable pattern in the findings.

Our results extend existing results on self-concept clarity by showing a robust link to decision making performance in a social context. This link is consistent with the notion that self-concept clarity moderates our ability to identify resources for self-serving goals as derived from Light (2017)'s model of self-concept clarity and goal pursuit. Light suggested that during the post-decisional/pre-actional phase, low self-concept clarity may interfere with the search for accurate information to pursue a specified goal, but also pointed to a lack of empirical evidence in the literature. Our two studies filled this gap by showing that people with high self-concept

clarity are better at detecting options that satisfy their own and others' goals in a task drawing mainly on Light's post-decisional phase of goal pursuit.

One mechanism that could potentially underlie or, at least, co-determine the relationship between self-concept clarity and goal pursuit is self-other confusability. Social decisions often involve a conflict of interest between oneself and other persons involved. For example, a weekend mountain trip with your partner can help you refresh your mind but your non-athletic partner, who prefers to stay home and watch movies, will have less time to relax. Solving the conflict will require integrating the different costs and benefits for the parties involved, which can be difficult when the other persons involved are close to oneself. Work on interpersonal behavior has discussed how we process mental representations of oneself and others that may be connected in ways that may impede our ability to discriminate between our goals and those of others (Aron et al., 1991; Coats et al., 2000; Mashek et al., 2003; Uğurlar et al., 2021b). We suspect that this notion of confusability delivers a basis for understanding Socrates' remarks on the ability of introspecting oneself and decision making performance: When people's mental representations of self and others are not clearly separated, then not only may we mistake another person's characteristics and attitudes for our own, we may also mistake our own characteristics and attitudes for those of others. Our result that the role of self-concept clarity is equally present for self- and for other-serving goal instructions seems to be consistent with this notion. Additional work will be needed to elucidate the precise role of mental representations for the link between self-concept clarity and decision making performance. On a theoretical level, our results contribute to the self-expansion model and self-other overlap literature (e.g., Aron et al., 2013) by demonstrating that the confusion between

self and other related resources may be less for individuals with high self-concept clarity – meaning that not everyone is equally prone to the self-other confusion. In addition to the contextual factors such as interpersonal closeness as the predictor of self-other resource confusability (Aron et al., 1991), current research suggests self-concept clarity as a personality factor that can predict self-other resource confusability.

Work in other fields is amassing evidence that the contents and structure of mental representations can impact cognitive performance in a wide array of tasks (Bhatia, 2017; Wulff & Mata, in press; Stoler et al., 2018; see Wulff et al., 2019, for a review). This work highlights how individual differences in attention, learning, and the available information environment can shape mental representations and behavior. It seems plausible that similar mechanisms may drive individual differences in self-concept clarity and its role for behavior. This likely includes cultural differences, such as language – for instance in Turkish language it is not uncommon to use the pronoun “We” instead of “I”³ to describe an act that is only performed individually (“Biz”, 2019) – or the level of individualistic or collectivistic orientation. Individuals exposed to such cultural differences may develop representations that discriminate less clearly between themselves and a group. Indeed, self-concept clarity has been observed to be higher in Canada than in Japan (Campbell et al., 1996), countries that differ greatly with respect to their communal and individualistic orientation. The present results suggest that this difference may translate into performance differences in social decision making.

³ “We”: “Biz” [Turkish trans.]; “I”: “Ben” [Turkish trans.]

4.1. Limitations and Future Research

There are several limitations and avenues for future research that we would highlight. First, our study was based on a correlational design. Consequently, we can only speculate about the causal mechanisms underlying the link between self-concept clarity and decision performance, and must consider that the link is a spurious one. One possibility is that the link is driven by cognitive abilities, which could have been positively related to both self-concept clarity and decision making performance. However, there are two results speaking against this possibility: Our proxy of cognitive abilities, the verbal fluency task, was only moderately related to the performance in the behavioral measure of SCC, the me-not me task, but not at all related to self-report measure, the SCC scale, and the effects of both the me-not me task and the SCC scale were still significant even when we controlled for cognitive abilities. Another possible driver could be individual differences in social preferences, given that previous research has found people high in self-concept clarity to also exhibit high prosociality (Crocetti et al., 2016) and more cooperative problem-solving behavior (Bechtoldt et al., 2010). Yet again, two observations speak against this account: Social preferences, as measured by the Social Value Orientation scale, were not associated with self-concept clarity or the performance in the me/other game and did not to affect the relationships between those variables in the regression analyses and we found similar results between self-interested trials and altruistic trials.

Second, our study was based on a single task, the me/other game, involving a resource allocation between the self and a hypothetical close other person. This task is structurally similar to social economic games, such as the dictator game (see Engel, 2011 for a review), and,

hence, we think it is possible that our results may generalize to these games or the situations these games intend to model. That is, our findings may generalize to decision making situations involving notions such as self-interest, altruism, fairness or reciprocity. However, whether our results generalize broadly to social decision making, including more complex situations, such as negotiations, joint decision making, or mating choices must be evaluated in future studies. Relatedly, we can only say little about the role of social closeness in the link between self-concept clarity and decision making performance. Our task involved a hypothetical close other person, based on our reasoning that self-other confusability might be an important factor for self-concept clarity and social decision making. However, whether our results would be diminished for more distant others, as one might predict based on a presumed involvement of self-other confusability, will have to be assessed in future studies.

Third, both studies were based on American samples recruited through Amazon Mechanical Turk. It has been proposed that for people who are so-called independents – characterized by being unique and separate from social context, bounded, unitary, and stable – knowledge about the self may be organized in a more abstract and generalized way, as compared to interdependents (Markus & Kitayama, 1991). Consequently, our results for American samples, who likely include a large proportion of independents (Choi et al., 2007), may not generalize to other samples in other cultures. We hope that future studies will conduct cultural comparisons of self-concept clarity and its role for social decision making.

4.2 Conclusions

We conclude that our results support a link between self-concept clarity and our ability to make decisions in a social context, over and beyond cognitive ability and social preferences.

Consequently, Socrates indeed may have given useful advice: Knowing oneself could facilitate good governance.

CRedit authorship contribution statement

P. Uğurlar developed the study concept. P. Uğurlar and D. U. Wulff contributed to the study design, data collection, data analysis, and drafting the manuscript. Both authors approved the final version of the manuscript for submission.

Ethical considerations

All studies reported in this manuscript fully comply with the ethical guidelines of the Association of German Professional Psychologists, the German Psychological Association (BDP & DGPs, 2016) and The Code of Ethics of the World Medical Association. All study sessions did not cause any unusual physical or psychological stress for the participants. All participants were adults. Their participation was completely voluntary and it was compensated. They had the freedom to end their participation at any time without any negative consequences for them.

Before their participation in each of the studies, the participants received information that explained the course and content of the study. The information was detailed enough to allow them an informed decision about whether to participate or not (informed consent). All collected data were analyzed in an anonymous way. All data that might be used to identify participants is treated confidentially.

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